Attachment 3

Work Plan

East Contra Costa County
Proposition 84 Round 1 Implementation Grant Proposal

ATTACHMENT 3 –
WORK PLAN

INTRODUCTION

The following members of the East County Water Management Association (ECWMA), including water agencies, wastewater agencies, flood control districts, and watershed management groups within the eastern portion of Contra Costa County (East County), have a long history of cooperative planning for the region.

- City of Antioch
- City of Brentwood
- Byron-Bethany Irrigation District
- Town of Discovery Bay
- Contra Costa County
- Contra Costa County Flood Control and Water Conservation District
- Contra Costa Water District
- Delta Diablo Sanitation District
- Diablo Water District
- East Contra Costa Irrigation District
- Ironhouse Sanitary District
- City of Pittsburg

Through their coordinated regional planning efforts, these East County agencies developed a Functionally Equivalent Integrated Regional Water Management Plan (IRWMP) based on planning completed through the following efforts:

- *East County Water Supply Management Study (1996)*
- *Future Water Supply Study (1996, Updated 2002)*
- *Stormwater Management Plan (1999)*
- *Delta Region Drinking Water Management Plan (2005)*
- *East Contra Costa County Habitat Conservation Plan (2006)*

These documents form the basis of the Functionally Equivalent IRWMP umbrella document, which serves to integrate the regional plans listed above into a single overarching regional water management plan for East County. Through development and adoption of the Functionally Equivalent IRWMP, the East County agencies identified a suite of water management projects and programs that, together, will improve water supply reliability and water quality for the region, reduce dependence on imported water, assist in achieving the regional objectives, provide multiple benefits, and eliminate or reduce pollution in sensitive habitat areas and areas of special biological significance.

Through the IRWMP effort, the agencies developed a process for prioritizing short-term and long-term priority projects for implementation which considers the ability of projects to achieve regional objectives, among other factors. Over time, the specific projects being considered for regional implementation have evolved to include additional projects targeted at reducing demands on Delta supplies as well as projects aimed at addressing critical water supply and water quality needs of DACs. The process has proven successful in its ability to respond to changing needs and conditions in the Region, and has continued to be utilized to identify priority projects for regional implementation. Through this process, the East County agencies have identified the following high priority projects for short-term regional implementation and inclusion in this Proposal:

1. East County Water Conservation Program
2. East County Water Meter Installation Program
3. Brentwood Non-Potable Water Supply Project
4. Pittsburg Recycled Water Pipeline Rehabilitation Project
5. Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project
6. Drainage Area 55 - West Antioch Creek Channel Improvements
7. Upper Sand Creek Basin
8. Watershed Protection and Restoration

Each of these projects incorporates multiple water management elements. Together, these projects incorporate a wide range of water management elements, and address all of the regional objectives set forth in the Functionally Equivalent IRWMP. These projects together comprise the East Contra Costa County Integrated Regional Water Management Proposition 84 Implementation Grant Proposal.

Project List

The table on the following page provides an abstract of each of the projects included within this proposal and identifies the implementing agencies and current status.

Project	Lead and Partner Agencies	Abstract	Status
1 - East County Water Conservation Program	City of Brentwood and Diablo Water District (DWD)	This program involves three elements to help reduce consumption of valuable Delta and local groundwater supplies: (1) High efficiency toilet (HET) rebates; (2) Leak Detection and Repair; and (3) SMART (ET) Irrigation Controller Conversion. Combined, these programs would result in 1,138 AFY of savings. The HET Rebate program would cover costs to install up to 490 HETs within DWD's service area. The Leak Detection and Repair Project involves surveying approximately 7 miles of distribution system pipelines. These lines serve about 2,000 households within DWD's service area, representing 18% of total householders. The SMART (ET) irrigation controller conversion program is a multi-year program that would convert existing irrigation controllers over to SMART programmable ET-based irrigation controllers for approximately 7500 residential properties within the City of Brentwood.	Feasibility level analysis and planning is complete and the projects have been defined. These projects are categorically exempt for CEQA and do not require any design. The next step for all is implementation, which is planned to start in late 2011 (pending receipt of grant funding).
2 - East County Water Meter Installation Program	Contra Costa Water District (CCWD) and DWD	This program involves two elements: (1) installation of 110 residential water meters within DWD's service area; and (2) installation of 106 meters for landscaping customers within CCWD's service area. Installation of meters for these "flat rate", unmetered customers is expected to provide up to 20% savings of valuable Delta and Groundwater supplies. Implementation of these projects is needed to comply with AB 1420 requirements.	Feasibility level analysis and planning and design for this project is complete. The projects are categorically exempt for CEQA. Implementation is scheduled to begin in summer 2011 (pending receipt of grant funding)

Project	Lead and Partner Agencies	Abstract	Status
3 - Brentwood Non-Potable Water Supply Project	City of Brentwood	This project involves extending recycled water service via installation of 9,400 linear feet of 12" pipeline to provide irrigation supply to 29 acres of municipal and utility-owned lands. The project will offset 88 AFY of potable water supplies, including Delta and local groundwater supplies, currently being used to irrigate these lands.	The feasibility planning and analysis is complete and the project (e.g., alignment and sizing) has been defined. The City is currently in the process of starting the design. Implementation is currently scheduled to begin in late 2011.
4 - Pittsburg Recycled Water Pipeline Rehabilitation Project	DDSD and City of Pittsburg	This project involves the rehabilitation of approximately 5,240 feet of 20-inch and 30-inch asbestos cement (AC) recycled water main using Cured-In-Place Pipe (CIPP). The existing line (converted from a raw water pipeline) is over 35 years old, has experienced failures, and may not be able to withstand the increased operating pressures that will be needed for the service area. The rehabilitation will provide reliability and ensure continued delivery of approximately 526 AFY of Title 22 disinfected recycled water to Stoneman Park and Delta View Golf Course within the City of Pittsburg.	Feasibility study and analysis is complete. Final design is scheduled to be completed by the end of summer 2011 with construction being complete by Spring 2012.
5 - Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project	Contra Costa Water District (CCWD)	The CCWD Canal Levee Elimination and Flood Protection Project will replace 21,000 feet of the unlined Contra Costa Canal with a pipeline to improve source water quality available to CCWD by preventing intrusion of poor quality groundwater. The full project will also eliminate up to eight miles of aging canal embankments that were not intended to provide flood protection, yet are currently relied upon for that purpose. Finally, the project will improve security and public safety by preventing access to the open water canal. This project is Phase 2 of the full project, which includes replacing approximately 400 feet of the canal with a pipeline and eliminating associated canal embankments. Phase 2 also includes a crossing of Marsh Creek.	Planning and environmental documentation are complete. Design is scheduled for completion by June 1, 2011. Construction contracting is expected to begin in June of 2011, with construction beginning in October of 2011.

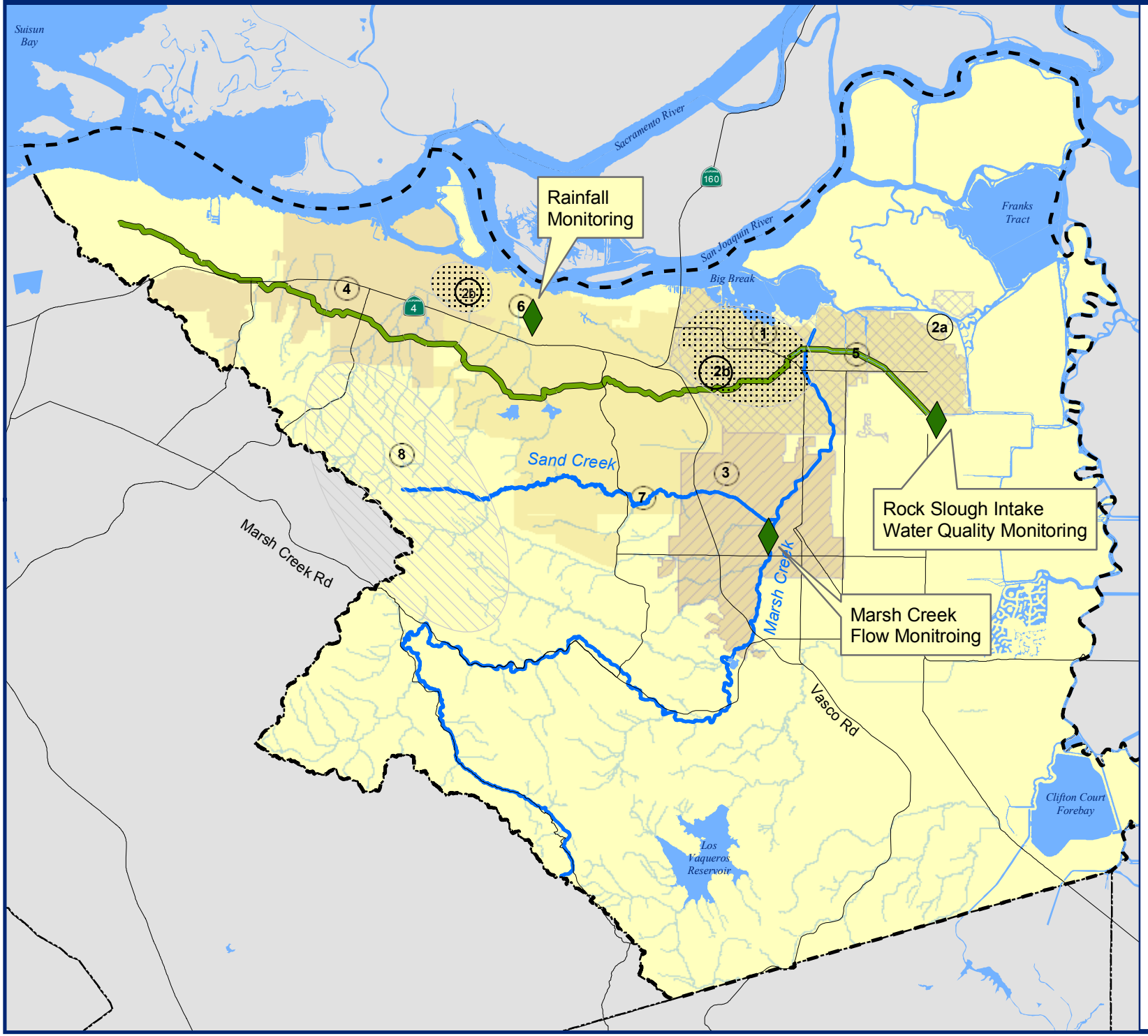
Project	Lead and Partner Agencies	Abstract	Status
6 - Drainage Area 55 – West Antioch Creek Channel Improvements	City of Antioch, Contra Costa County Flood Control and Water Conservation District (CCCFC&WCD)	The City of Antioch is partnering with the Contra Costa County Flood Control District to replace an undersized concrete trapezoidal channel and arch culverts to eliminate flooding to commercial and multi-family properties adjacent to the channel and within a Disadvantaged Community (DAC). This project will eliminate the significant public health threat in this DAC caused by chronic flooding; provide recreation benefits, as flooding in this area often results in the closure of the Contra Costa County Fairgrounds, the Antioch Little League Complex and Prosserville Park; provide water quality and habitat protection benefits by reducing flood-related debris and pollutant loading in West Antioch Creek, which flows directly into New York Slough; and improve public health protection by eliminating exposure to degraded flood waters.	Planning and design for this project are complete. Construction contracting is expected to begin in October of 2012, with construction beginning in Spring of 2013.
7 - Upper Sand Creek Basin	CCCFC&WCD	This project will construct a 900 acre-foot (AF) stormwater detention basin to provide regional flood protection to areas of Antioch, Brentwood and Oakley. The basin plan provides stormwater attenuation, stormwater infiltration, trash capture, and environmental enhancement of 3,500 LF of Sand Creek. The basin will also create seasonal wetlands and riparian habitat fed by urban runoff. The basin plan also allows future development as a regional sports park for the City of Antioch.	Planning and environmental documentation for this project are complete. Design is nearing completion (currently at 90 percent). Construction contracting is expected to occur in December of 2011, with construction beginning in May of 2012.

Project	Lead and Partner Agencies	Abstract	Status
8 - Watershed Protection and Restoration	East Contra Costa County Habitat Conservancy (Conservancy) East Bay Regional Park District	This project will acquire and restore habitat for endangered and listed species in eastern Contra Costa County. This is part of a regional program to permanently protect and manage a 30,000-acre preserve system for ecosystem integrity, recreation and species. This project will include acquisition of a high-priority parcel identified in the East Contra Costa County Habitat Conservation Plan/ Natural Community Conservation Plan, providing important benefits to listed species. The restoration will involve restoring/creating aquatic habitats (wetlands/ponds) suitable for CA Tiger Salamander or CA Red legged Frog. The Conservancy has an on-going program to do this work and has many parcels in play at any given time.	Conceptual planning for this project is complete. Detailed design will be completed upon parcel acquisition. Construction contracting is anticipated to begin in May of 2012, with construction beginning in September of 2012.

Regional Maps

The maps that follow present the location of proposed projects with respect to local water resources disadvantaged communities, and monitoring locations.

Regional Map



Legend

- East CCC IRWMP Boundary
- Major Roads
- Cities / Unincorp Contra Costa County
- Creeks and Drainages
- Contra Costa Canal
- Monitoring Station

Proposed Projects*

1. East County Water Conservation Program
   - DWD HET Rebate Program
   - DWD Leak Detection Locations
   - Brentwood Water Conservation Measures
2. East County Water Meter Installtion Program
   - 2a DWD Water Meters
   - 2b CCWD Water Meters
3. Brentwood Nonpotable Water Distribution System
4. Pittsburg Recycled Water Pipeline Rehabilitation
5. Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project
6. Drainage Area 55 - West Antioch Creek Channel Improvements
7. Upper Sand Creek Basin Project
8. Watershed Protection and Restoration **

* Approximate location of project is represented. Where an area is indicated, the project will occur within the area - but may not cover the entire area.

*** Acquisitonand Restoration will only occur within the IRWMP Boundary

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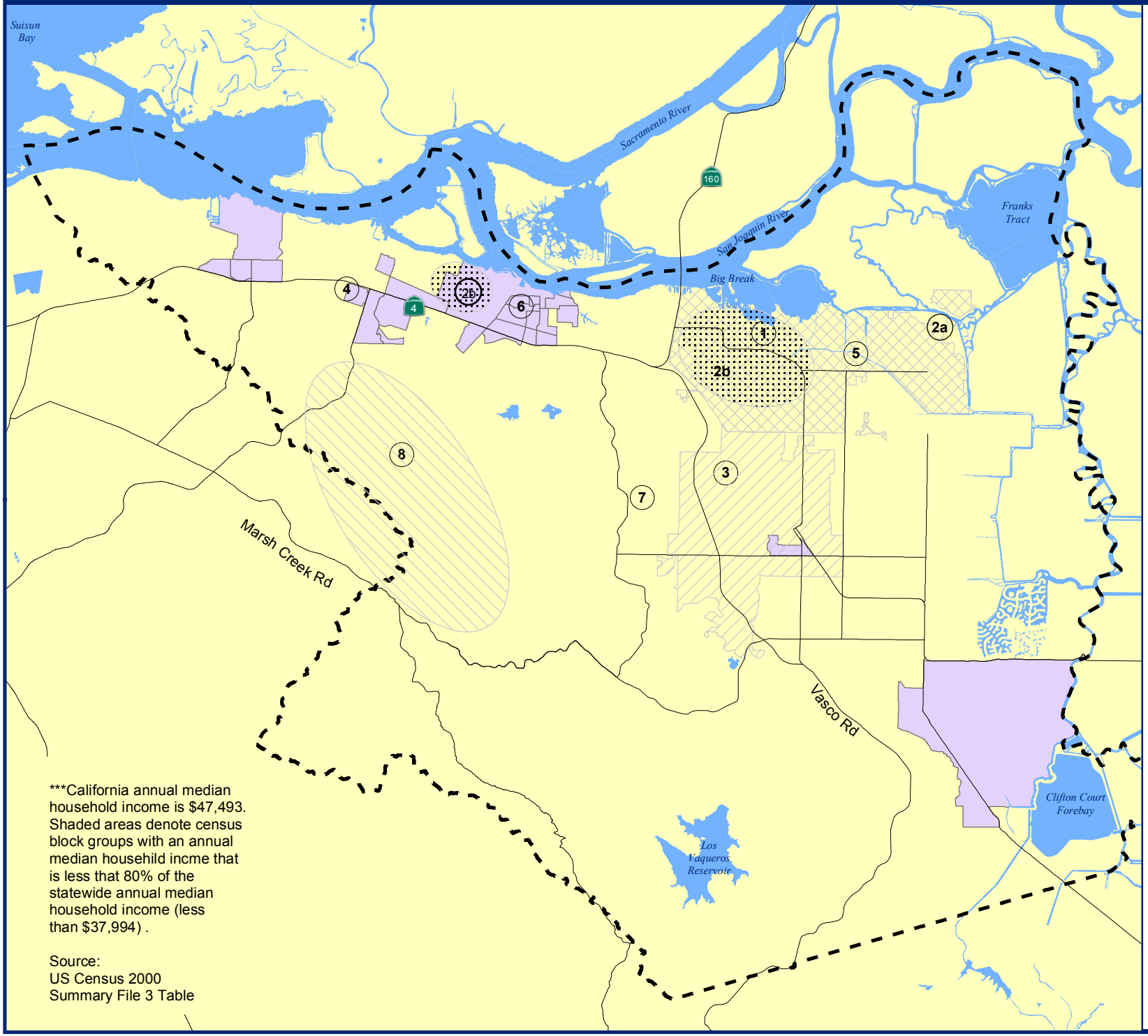
East County Projects Proposed for Funding and East Count Disadvantaged Communities***



***California annual median household income is $47,493. Shaded areas denote census block groups with an annual median household incme that is less that 80% of the statewide annual median household income (less than $37,994) .

Source:
US Census 2000
Summary File 3 Table

Legend

- East CCC IRWMP Boundary
- Major Roads
- Disadvantaged Communities

Proposed Projects*

- 1 — East County Water Conservation Program
  - DWD HET Rebate Program
  - 1 — DWD Leak Detection Locations
  - Brentwood Water Conservation Measures
- 2 — East County Water Meter Installtion Program
  - 2a — DWD Water Meters
  - 2b — CCWD Water Meters
- 3 — Brentwood Nonpotable Water Distribution System
- 4 — Pittsburg Recycled Water Pipeline Rehabilitation
- 5 — Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project
- 6 — Drainage Area 55 - West Antioch Creek Channel Improvements
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- 8 — Watershed Protection and Restoration **

* Approximate location of project is represented. Where an area is indicated, the project will occur within the area - but may not cover the entire area.

** Acquisitonand Restoration will only occur within the IRWMP Boundary

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Goals and Objectives

This Proposal will achieve the following key goals and objectives:

- ✓ To advance the objectives of the IRWMP and further those projects collectively identified as regional priorities by the ECWMA.
- ✓ To improve water supply, water quality, flood protection for the community, including DACs.
- ✓ To provide protection of the natural resources in East Contra Costa County.

Advance the IRWMP Objectives and Further Regional Priorities

The projects included in this Proposal were identified through the prioritization process outlined in the East County IRWMP and through collective determination by the participating agencies. The projects were selected for inclusion in this Proposal due to their ability to assist the Region in making significant progress toward achieving the IRWMP objectives. As shown in the following table, the proposed projects will move the region further along the path to achieving these objectives.

Water Management Category	Objectives	Proposed Projects Achieving Objective
Water Supply	Maximize Dry Year Supplies	• East County Water Conservation Program • East County Water Meter Installation Program • Brentwood Nonpotable Water Distribution • Pittsburg Recycled Water Pipeline Rehabilitation • Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project • Watershed Protection and Restoration
	Maximize Water Supply Reliability	• East County Water Conservation Program • East County Water Meter Installation Program • Brentwood Nonpotable Water Distribution • Pittsburg Recycled Water Pipeline Rehabilitation • Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project
	Meet Future Demands	• East County Water Conservation Program • East County Water Meter Installation Program • Brentwood Nonpotable Water Distribution • Pittsburg Recycled Water Pipeline Rehabilitation
	Maximize the Use of Local Supplies/Reduce Dependence on Imported Supplies	• East County Water Conservation Program • East County Water Meter Installation Program • Brentwood Nonpotable Water Distribution • Pittsburg Recycled Water Pipeline Rehabilitation
Water Quality	Maximize Public Health Protection	• Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project • Drainage Area 55 – West Antioch Creek Channel Improvements

Water Management Category	Objectives	Proposed Projects Achieving Objective
		• Upper Sand Creek Basin
	Protect and Enhance Source Water Quality	• East County Water Conservation Program • East County Water Meter Installation Program • Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project • Drainage Area 55 – West Antioch Creek Channel Improvements • Watershed Protection and Restoration
Groundwater Management	Protect Against Overdraft	• East County Water Conservation Program • East County Water Meter Installation Program • Brentwood Nonpotable Water Distribution • Pittsburg Recycled Water Pipeline Rehabilitation
	Protect Water Quality from Degradation	• None
Ecosystem Restoration/ Preservation	Minimize Environmental Impacts	• East County Water Conservation Program • East County Water Meter Installation Program • Brentwood Nonpotable Water Distribution • Pittsburg Recycled Water Pipeline Rehabilitation • Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project • Upper Sand Creek Basin • Watershed Protection and Restoration
	Maximize Environmental Benefits	• Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project • Upper Sand Creek Basin • Watershed Protection and Restoration
Wastewater	Reduce Pollutant Discharges	• Brentwood Nonpotable Water Distribution • Pittsburg Recycled Water Pipeline Rehabilitation
	Maintain Regulatory Compliance	• Brentwood Nonpotable Water Distribution • Pittsburg Recycled Water Pipeline Rehabilitation
	Protect Public Health and Environmental Resources	• None
	Maximize Environmental Sustainability	• Brentwood Nonpotable Water Distribution • Pittsburg Recycled Water Pipeline Rehabilitation
Flood Control	Protect Against Flooding	• Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project • Drainage Area 55 – West Antioch Creek Channel Improvements • Upper Sand Creek Basin

Water Management Category	Objectives	Proposed Projects Achieving Objective
Implementability	Maximize Implementability (e.g., maximize regional coordination, conduct stakeholder outreach, maximize cost-effectiveness, etc)	• East County Water Meter Installation Program • Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project • Drainage Area 55 – West Antioch Creek Channel Improvements • Upper Sand Creek Basin • Watershed Protection and Restoration

Improve Water Supply, Water Quality, and Flood Protection

This Proposal includes a strong emphasis on water supply, water quality, and flood protection.

Water Supply Benefits

Implementation of the projects included in this Proposal would yield significant water supply benefits, at the local, regional and Statewide level. **Over the course of this Proposal, approximately 108,287 AF of East County supply will be secured, conserved or offset, including 107,678 AF of Delta supply.**

All of the water suppliers in the ECWMA rely on Delta supplies. Three of these water suppliers (City of Pittsburg, City of Antioch, DWD) purchase untreated Sacramento-San Joaquin Delta supplies from CCWD. Brentwood has a Delta surface supply purchased from ECCID that is diverted by CCWD at its Delta intakes. Also, CCWD serves a portion of Brentwood that lies within its service area boundaries. As described in Attachment 15, improving current and future water supply reliability under all hydrologic conditions is a critical regional need, due to its current heavy reliance on Delta supplies.

Delta supplies are highly vulnerable to hydrologic changes, and water withdrawals can be severely restricted in dry years, reducing the quantity of supply available to the participating agencies. In addition, regulatory restrictions can limit the quantity of Delta supplies available in a given year. Conflicts between the need to divert water from the Delta and the legal requirements to protect endangered species can result in pumping restrictions that severely limit the quantity of Delta water allowed to be withdrawn in a given year.

Implementing the projects in this proposal will assist the region in improving water supply reliability, a critical water supply need. Specifically, the ***East County Water Conservation Program***, the ***East County Water Meter Installation Program***, the ***Brentwood Nonpotable Water Distribution Project***, and the ***Pittsburg Recycled Water Pipeline Rehabilitation Project*** all work toward improved supply reliability, either through demand management or the cultivation of drought-resistant recycled water supplies. The ***Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project*** also improves water supply reliability, not only for the East County Region, but Statewide. By eliminating local degradation from groundwater seepage and runoff, this project will increase overall water supply for the Federal Central Valley Project by reducing the need for upstream releases into the Delta to offset this local degradation. Even the ***Watershed Protection and Restoration Project***, while on the surface a land acquisition and restoration project, will provide a water supply benefit, as successful completion of the

Habitat Conservation plan / Natural Community Conservation Plan (HCP / NCCP) is required to enable CCWD to exercise its full water right.

Water Quality Benefits

Implementation of the projects included in this Proposal would yield significant water quality benefits for the Region as a whole and for specific disadvantaged communities by eliminating health risks to residents of a DAC posed by chronic exposure to degraded flood waters; reducing cancer risk associated with bromide production; preventing distribution system contamination from inflow; improving delivered water aesthetics, protecting headwater streams from development impacts in perpetuity; reducing pollution from dry-weather irrigation runoff, and reducing introduction of fertilizers to the sensitive Delta ecosystem.

In addition to water supply reliability, water quality is an ongoing challenge facing East County water suppliers. Delta water quality is highly variable depending upon the season, the water year, and the intake location. During dry years and seasons Delta supplies contain high concentrations of total dissolved solids (TDS), chloride and bromide. Total organic carbon (TOC) concentrations in Delta supplies are also highly variable, with increases generally corresponding to periods of increased runoff. The Los Vaqueros Reservoir, which is owned and operated by CCWD, is used to improve the water quality delivered to East County customers. Currently, water is pumped into Los Vaqueros during spring and early summer months when Delta water quality is good. During the late summer and fall, when Delta water quality is poor, Delta supplies are blended with the high quality water stored in Los Vaqueros Reservoir to improve the water quality delivered to CCWD's untreated and treated water customers.

The quality of Delta water is also dependent on maintenance of the Delta levee system as well as land and water management activities throughout the Delta and its larger watershed. Failure of the Delta levee system due to flooding or seismic events could dramatically increase levels of chloride, bromide, and TOC, and potentially render the water supply unusable for municipal or agricultural purposes. Similarly, changes in Delta land-use and water management practices, including many identified by CALFED, could increase levels of undesirable constituents at East County intake locations.

Several of the projects included in the Proposal provide targeted benefits to key water quality challenges. For example, the ***Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project*** will encase a portion of the Contra Costa Canal, improving drinking water quality for 550,000 people in Contra Costa County by decreasing the amount of saline groundwater intrusion in the canal. The ***Brentwood Nonpotable Water Distribution System*** and ***Pittsburg Recycled Water Pipeline Rehabilitation*** projects will protect the quality of receiving waters by reducing wastewater discharges. The ***East County Conservation Program*** and ***Water Meter Installation Program*** will also provide water quality improvements by freeing up additional Los Vaqueros water for blending, potentially improving delivered water quality for CCWD's customers. The ***Upper Sand Creek Basin*** project will replace a highly degraded, overgrazed, and incised creek with more natural wetland and riparian system planted with native plants and trees, providing filtration for stormwater runoff from urban areas upstream, protecting receiving water quality. The ***Watershed Protection and Restoration Project*** will conserve the headwater lands of several streams, protecting water quality in those areas in perpetuity. Finally, the ***Drainage Area 55 - West Antioch Creek Channel Improvement Project*** will prevent the chronic problem of flood waters leaving West Antioch Creek, flooding local residential, commercial and industrial areas, and then returning to the San Joaquin River basin as a contaminated source.

Flood Protection Benefits

Implementation of the projects included within this Proposal will result in over $36M of avoided costs in flood damages.

Flood protection benefits will also be achieved through implementation of this Proposal. Specifically, the primary purpose of the ***Upper Sand Creek Basin*** project is to prevent flooding along the lower reach of Marsh Creek by conveying local stormwater runoff and stormwater generated in the watershed to the basin where it will be stored and released slowly through the basin outlet, reducing peak flows downstream and reducing the potential for flooding downstream properties. The project will increase the flood storage capacity of the basin from 123 AF to 900 AF with a 35-foot maximum depth, capable of containing stormwater flows up to the 100-year storm event. The ***Drainage Area 55 - West Antioch Creek Channel Improvements*** project will remedy chronic flooding to commercial and multi-family properties located adjacent to a deficient reach of West Antioch Creek by extending channel improvements over an existing 650 foot gap with limited conveyance capacity. This project is the City's number one priority flood control project in the Region.

Targeted DAC Benefits

In addition to achieving the critical need of improved water supply reliability for the Region, this Proposal was developed to provide specific, targeted benefits to disadvantaged communities in the Region. As described in Attachment 12, The East County Region covers an area of 222,093 acres and is home to approximately 238,702 people. The population centers are located north of Highway 4 with smaller agricultural unincorporated communities to the south and east. The exception to this is the community of Bay Point which is located in an urban area to the west of Pittsburg. Disadvantaged communities have been identified in the unincorporated communities of Bay Point and Byron as well as parts of the cities of Pittsburg and Antioch.

One of the projects included in this Proposal will meet critical water supply and water quality needs of disadvantaged communities. The ***Drainage Area 55 – West Antioch Creek Channel Improvement Project*** will replace an undersized concrete trapezoidal channel and arch culverts to eliminate chronic flooding to commercial and multi-family properties adjacent to the channel and within a DAC. Currently, this DAC area experiences severe flooding two to three times each year, with damage caused to local buildings and infrastructure. Additionally, even during mild storms, flooding events in this area cause considerable loss of function, with local businesses becoming inaccessible, resulting in loss of revenue. Portions of the Pittsburg-Antioch Highway, which serves as a major transportation artery to and from East Contra Costa County, and several minor roads are typically inundated and forced to close during these events. Even in relatively minor events, extensive flood inundation can occur. For example, a February, 2000 storm in which 1.7 inches of rain fell over a 24-hour period caused the Holiday Lodge Motel to be flooded with several inches of flood water.

This type of flooding exposes residents of this disadvantaged community to degraded – and potentially dangerous - flood waters. Degraded water quality of flood waters in urban areas poses a real threat to human health. Flood waters may contain potentially hazardous or infectious materials, such as fecal material from overflowing sewer systems, pathogens, agricultural runoff, and chemicals from commercial and industrial areas. Contact with flood waters can cause infection and / or injury. Water

quality impacts caused by flooding and standing water in this area pose a danger to residents in this disadvantaged community, and are a critical water quality issue. This project will address this issue, providing flood protection up to the 25-year storm.

Protect Natural Resources

Ecosystem restoration and habitat protection are unavoidably linked to protecting the water quality and water supply reliability in East County. Protecting Delta water quality protects source water for the region and protects the Delta's aquatic species from the harmful impacts of degraded water quality. Promoting the recovery of the Delta's endangered fish species improves water supply reliability by reducing regulatory conflicts between the need to divert water from the Delta and the legal requirements to protect endangered species. Wetland and riparian restoration projects can sometimes create habitat for endangered species while at the same time reducing the amount of polluted run-off flowing into the Delta – a win for water quality, endangered species, and water supply reliability.

Many of the proposed projects serve to protect and enhance the valuable natural resources of East Contra Costa County. Because the participating agencies are all Delta users, any reduction in water use will potentially serve to leave more water in the Delta environment, providing valuable benefits for aquatic species. In this way, the ***East County Water Conservation Program*** and the ***East County Water Meter Installation Program*** serve to protect the Region's rich natural resources. In addition to reducing Delta supply needs and potentially leaving water in the Delta for environmental uses, the ***Brentwood Nonpotable Water Supply Project*** and ***Pittsburg Recycled Water Pipeline Rehabilitation Project*** will further protect natural resources by reducing wastewater discharges and thereby reducing the introduction of pollutants to receiving waters. In addition to acquiring 47 acres of wetland and 98 acres of upland habitat as mitigation for the project, completion of the ***Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project*** will protect natural resources by enabling the Dutch Slough Tidal Marsh Restoration project to proceed. The Dutch Slough Tidal Marsh Restoration project will restore a tidal wetland just to the north of the project. This project is a critical early action to improve the ecosystem health of the Sacramento-San Joaquin Delta, a point highlighted by Governor Schwarzenegger in a July 2007 statement and its inclusion in the Interim Delta Plan. The completion of the legislatively mandated (SBX7-1 Section 85085) Dutch Slough Tidal Marsh Restoration project is dependent on the construction of 11,000 ft of the pipeline adjacent to the Dutch Slough Restoration site. The ***Drainage Area 55 - West Antioch Creek Channel Improvements*** and the ***Upper Sand Creek Basin*** Projects will protect natural resources by reducing the geomorphic and water quality impacts associated with flood waters from urbanized areas. The ***Watershed Protection and Restoration Project*** will acquire and restore approximately 200 acres of land in the northwest area of the IRWMP area near the cities of Pittsburg and Clayton. One of the main goals in this area is to protect a corridor that reaches from the Concord naval Weapons Station (just west of the East County IRWMP area) to the Black Diamond Mines Regional Preserve (and farther south to Alameda and San Joaquin County). This region is rich in natural resources and contains the headwaters to many small creeks that drain to the north through more urbanized areas and to the east into already preserved lands. Restoration will involve restoring/creating aquatic habitats (wetlands/ponds) suitable for CA Tiger Salamander or CA Red legged Frog.

Purpose and Need

As described above, successful implementation of the proposed projects will further the objectives of the IRWMP. In addition to furthering the IRWMP objectives, it is critical that the projects in this Proposal are implemented to avoid a series of negative impacts associated with non-implementation. Negative impacts associated with Proposal non-implementation may include:

- Failure to Meet 20x2020 Conservation Objectives: The East County Water Conservation and East County Water Meter Installation Programs are needed in order to help the City of Brentwood, DWD, and CCWD work toward achieving the required 20% reduction in per capita water consumption by 2020. Failure to implement these projects could jeopardize the Region's ability to meet this requirement.
- Failure to Comply with the Requirements of AB 1420: The Water Meter Installation Program is needed in order to meet the requirements of AB 1420. Failure to implement the project could threaten compliance with AB 1420.
- Delta Supply Impacts: Without the ***Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project***, degraded water quality at Rock Slough Intake will increase the amount of water upstream reservoirs must release to meet the Rock Slough water quality standard. Similarly, CCWD will also release more water to its delivered water quality goals. Without the ***East County Water Conservation Program***, ***East County Water Meter Installation Program***, ***Brentwood Nonpotable Water Supply Distribution System***, ***Pittsburg Recycled Water Pipeline Rehabilitation Project***, and the ***Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project,*** demands for Delta supplies may continue to increase, particularly for unmetered customers, as valuable potable supplies are used for irrigation and potable water is lost as runoff from outdoor irrigation.
- Local Water Supply Reliability Impacts: The ***East County Water Conservation Program***, ***East County Water Meter Installation Program***, ***Brentwood Nonpotable Water Supply Distribution System***, ***Pittsburg Recycled Water Pipeline Rehabilitation Project***, and the ***Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project*** are needed to improve supply reliability in East Contra Costa County. Without these projects, demands may continue to increase, particularly for unmetered customers, valuable potable supplies will continue to be used for irrigation purposes, and potable water will be lost as runoff from outdoor irrigation. Large quantities of Los Vaqueros Reservoir supplies will continue to be needed to blend with Delta supplies to meet treated water quality targets. In addition, without the ***Watershed Protection and Restoration Project*** or similar acquisition / restoration projects identified in the HCP / NCCP, the ability of CCWD to exercise its full water right would be in jeopardy. These projects are critical to improving water supply reliability for the region.
- Delta Water Quality Impacts: The ***Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project*** is needed to prevent water quality degradation for CCWD's raw and treated water customers. Without this project, 550,000 people will continue to be impacted by water quality degradation caused by intrusion of saline groundwater. In addition, the ***Brentwood Nonpotable Water Supply Distribution System*** and the ***Pittsburg Recycled Water Pipeline Rehabilitation Project*** are needed to reduce the introduction of pollutants into receiving waters. If the ***Drainage Area 55 – West Antioch Creek Channel Improvement Project*** or ***Upper Sand***

Creek Basin projects do not move forward, these urbanized areas will continue to flood, and Delta water quality will be impacted.

- Public Endangerment, Injury and Death: In addition, the ***Pittsburg Recycled Water Pipeline Project*** will rehabilitate a 35-year-old recycled water pipeline which originally served as a raw water pipeline and was converted to deliver recycled water as part of the construction of the Pittsburg Recycled Water Project, completed in 2010. With the expansion of recycled water service to the City of Antioch, Delta Diablo Sanitation District (DDSD) will need to increase the system operating pressure from about 100 psi up to 150 psi. The combination of the age of this pipeline, past failures and change in operating parameters now significantly increases the risk of pipeline failure. One section of the pipeline to be rehabilitated is located beneath Highway 4. If a failure occurs, it may cause significant damage, undermining the roadway, and potentially endangering the public. If the ***Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project*** is not completed, drownings in the canal will continue to occur.
- Failure to Comply with Legislative Mandate: The legislatively mandated (SBX7-1 Section 85085) Dutch Slough Restoration Project cannot be completed without prior completion of the ***Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project.*** The Dutch Slough Tidal Marsh Restoration project is dependent on the construction of 11,000 ft of the pipeline adjacent to the Dutch Slough Restoration site.
- Local Flood Damages: If the ***Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project***, ***Drainage Area 55 – West Antioch Creek Channel Improvement Project***, or ***Upper Sand Creek Basin Projects*** do not proceed, flood-related damages will persist. Flood damages are of particular concern because they include disadvantaged areas. Water quality impacts to Delta supplies could have ramifications statewide.
- Impacts to Disadvantaged Communities: Without the ***Drainage Area 55 – West Antioch Creek Channel Improvement Project***, DAC customers in this area will continue to face damages caused by severe flooding on an annual basis, along with the public health implications associated with the degraded water quality of flood waters in urbanized areas.

Consistency with Basin Plan

The bulk of the East County Region falls within Region 5, with portions of Contra Costa Water District and the City of Pittsburg included in Region 2. This proposal is consistent with the Basin Plans for both the Central Valley (Region 5), and the San Francisco Bay Area (Region 2). Each Basin Plan identifies water quality objectives for water bodies within its respective region. Notably, the Region 5 Basin plan identifies water quality objectives for the Sacramento-San Joaquin Delta, based on determined beneficial uses. The Basin plan lists the following existing beneficial uses for the Sacramento-San Joaquin Delta:

- Municipal and Domestic Supply (Existing)
- Agricultural Supply – Irrigation and Stock Watering (Existing)
- Industrial Supply – Process and Service Supply
- Recreation - Contact and Other Non-Contact
- Freshwater Habitat – Warm and Cold
- Migration – Warm and Cold

- Spawning – Warm
- Wildlife Habitat
- Navigation

Similar beneficial uses have been determined for potentially affected water bodies in Region 2. Further, all groundwaters in Regions 2 and 5 are considered suitable, or potentially suitable, for municipal and domestic water supply, agricultural supply, industrial service supply, and industrial process supply, unless otherwise designated by the appropriate Basin Plan.

As described previously, one of the primary objectives of this Proposal is to improve both drinking water and receiving water quality. All of the projects in East County that benefit ambient or receiving water quality benefit water quality in Region 5 and / or 2, and are therefore consistent with the appropriate Basin Plan(s). Specific water quality objectives for surface waters in the Region 5 and 2 Basin Plans include the following.

- Bacteria
- Bioaccumulation[1]
- Biostimulatory Substances
- Chemical Constituents
- Color
- Dissolved Oxygen
- Floating Material
- Mercury
- Methylmercury
- Oil and Grease
- pH
- Population and community ecology[1]
- Pesticides
- Radioactivity
- Salinity
- Sediment
- Settleable Material
- Suspended Material
- Sulfide[1]
- Tastes and Odors
- Temperature
- Toxicity
- Turbidity
- Un-ionized ammonia[1]

Several of the projects included in this Proposal will reduce the loading and / or concentrations of these parameters in Delta supplies, as follows.

- ***East County Water Conservation Program:*** By reducing water demands, this project may leave additional supply in the Delta, providing increased dilution for pollutants. As a result, this project would be expected to contribute to a reduction in concentration of the bulk of the contaminants listed. Therefore, this project is consistent with the Region 5 Basin Plan.
- ***East County Water Meter Installation Program:*** By reducing water demands, this project may leave additional supply in the Delta, providing increased dilution for pollutants. As a result, this project would be expected to contribute to a reduction in concentration of the bulk of the contaminants listed. Therefore, this project is consistent with the Region 2 and Region 5 Basin Plan.
- ***Brentwood Nonpotable Water Distribution System:*** This project will increase recycled water, reducing wastewater discharges. As a result, it would be expected to decrease the loading of bacteria, biostimulatory substances, chemical constituents, mercury, pesticides, salinity, suspended material, and turbidity into Delta waters. It may also contribute to increased dissolved oxygen and decreased in turbidity. Therefore, the project is consistent with the Region 5 Basin Plan.

[1] Included in Region 2 Basin Plan only

- ***Pittsburg Recycled Water Pipeline Rehabilitation*:** This project will enable continued use of recycled water in lieu of wastewater discharge. As a result, it would be expected to decrease the loading of bacteria, bioaccumulative substances, biostimulatory substances, chemical constituents, mercury, pesticides, salinity, suspended material, and ammonia (ionized and un-ionized) into receiving waters. It may also contribute to increased dissolved oxygen and decreased in turbidity. The City of Pittsburg's wastewater is treated and discharged by the Delta Diablo Sanitation District, located in Region 2; as a result, pollutant loading reductions would be achieved within Region 2 and the project is consistent with the Region 2 Basin Plan.
- ***Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project:*** This project will prevent intrusion of saline groundwater into the Contra Costa Canal, directly contributing to achievement of Basin Plan electrical conductivity (EC) objectives for Canal supplies. This project would also be expected to improve taste and odor in delivered water. This project is consistent with the Region 5 Basin Plan, which includes water quality objectives for the Contra Costa Canal.
- ***Drainage Area 55 - West Antioch Creek Channel Improvements:*** This project will eliminate flooding in an urbanized area and subsequent introduction of polluted flood waters into the Delta, potentially reducing loading of bacteria, biostimulatory substance, chemical constituents, floating material, mercury, oil and grease, pesticides, salinity, sediment, settleable material, suspended material, and taste-and-odor-causing compounds. In addition, pollution from flood waters could cause pH impacts and contribute to increased temperature, turbidity, color and toxicity and decreased dissolved oxygen. As a result, this project is consistent with the Region 5 Basin Plan.
- ***Upper Sand Creek Basin*:** This project will eliminate flooding in an urbanized area and subsequent introduction of polluted flood waters into the Delta, potentially reducing loading of bacteria, biostimulatory substance, chemical constituents, floating material, mercury, oil and grease, pesticides, salinity, sediment, settleable material, suspended material, and taste-and-odor-causing compounds. In addition, pollution from flood waters could cause pH impacts and contribute to increased temperature, turbidity, color and toxicity and decreased dissolved oxygen. As a result, this project is consistent with the Region 5 Basin Plan.
- ***Watershed Protection and Restoration*:** By conserving the headwaters to many small creeks in perpetuity, this project would be expected to reduce loading of all identified pollutants, and preserve existing dissolved oxygen concentrations. As a result, this project is consistent with the Region 2 and Region 5 Basin Plan.

While the project-level reductions in pollutant loading and improvements in parameter concentrations noted above are generally expected to be too small to measure, the overall effect is an improvement in water quality, consistent with both Region 2 and Region 5 Basin Plan objectives.

Summary of Completed Work and Existing Data and Studies

The table below provides a summary of work already completed for each of the projects and identifies existing data and studies that have been performed to support the project's feasibility and approach. Completed plans and specifications, where applicable, have been provided as separate files to this attachment.

Project	Summary of Completed Work and Key Findings	Existing Data and Studies
1 - East County Water Conservation Program	The feasibility analysis and planning for all three program components. A summary of the work completed and key findings for each program component is provided below: - *HET Rebates*: Determined the number of toilets targeted for replacement with HETs (490) and the associated installation costs ($98,000). - *Leak Detection and Repair:* Identified areas likely to have the highest number of leaks due to corrosive soil conditions (e.g., Vintage and Oak Grove); determined the miles of pipeline to be inspected and developed associated costs for inspection and repair. In addition, this project was determined to be Categorically Exempt as a Class 1 project under CCR 115301, alterations to existing plumbing and repair of existing facilities. - *SMART (ET) Irrigation Controller Conversion*: Completed pilot study that determined a 21% decrease in household water use through installation of SMART (ET) irrigation controllers.	• HET Rebate Project Scoping • Leak Detection and Repair Project Scoping • SMART (ET) Controller Conversion Pilot Study • Adopted Resolutions determining that project is Exempt and authorization to file Notice of Exemption

Project	Summary of Completed Work and Key Findings	Existing Data and Studies
2 - East County Water Meter Installation Program	The feasibility analysis and planning for meter installation within CCWD and DWD's service areas is complete. - *CCWD*: In 2010, CCWD updated its database of untreated and unmetered customers and prioritized the unmetered accounts in terms of ease of installation. 106 of the 317 existing unmetered accounts within CCWD's service area have been identified as targets for meter installation as part of this project. In addition, it has been determined that this project is categorically exempt from CEQA. - *DWD*: The number and location of meter installations has been determined. In addition, this project was determined to be Categorically Exempt as a Class 1 project under CCR 115301, alterations to existing plumbing and repair of existing facilities.	• CCWD Unmetered Database • DWD Meter Project Scoping • Adopted Resolutions determining that project is Exempt and authorization to file Notice of Exemption
3 - Brentwood Non-Potable Water Supply Project	Feasibility level planning and analysis for this project is complete and the City is in the process of securing design services for the project. Key findings from the feasibility analysis include: - *Targeted customers*: Approximately 29 acres of total irrigable lands. - *Project alignment*: Extension of existing recycled water line along Grant Street. - *Required facilities*: 9,400 linear feet of 12" (insert Type) pipeline	• Water Master Plan • Design RFP
4 - Pittsburg Recycled Water Pipeline Rehabilitation Project	Feasibility level planning and analysis for this project is complete. Key findings from the analysis include length of pipeline to be rehabilitated (5,240 feet) and preferred rehabilitation method (Cured-In-Place-Pipe). In addition, potential benefits and associated costs have been determined and potential funding sources have been identified.	• Feasibility Study

Project	Summary of Completed Work and Key Findings	Existing Data and Studies
5 - Phase 2 Contra Costa Canal Levee Elimination and Flood Protection	Documentation has been completed in accordance with the California Environmental Quality Act (CEQA) and National Environmental Protection Act (NEPA). A Negative Declaration was filed on November 30, 2007; it was determined that the project will not have significant effects on the environment. A Finding of No Significant Impact (FONSI) was filed in July of 2007. Phases 1 and 2 of the pipeline design are expected to be completed by June of 2011. Several permits and agreements were secured in 2007, including: Central Valley Regional Water Quality Control Board 401 Permit, CA Department of Fish and Game 1600 and 2081 Permits, State Historic Preservation Office MOU, US Army Corps of Engineers 404 Permit, National Marine Fisheries Letters of Concurrence, US Fish and Wildlife Coordination Act Letter, and US Bureau of Reclamation/WAPA NEPA EA/FONSI. In addition, Phase 1 of the project, which included encasing 1900 LF of pipeline from Pump Station #1 to Marsh Creek, has been completed. Completed environmental mitigation has included 98 acres of upland habitat and 47 acres of wetland habitat in Holland Tract.	• Preliminary and Final Design • Environmental Documentation
6 - Drainage Area 55 – West Antioch Creek Channel Improvements	In 1984, the CCCFC&WCD issued a draft Environmental Impact Report (EIR), including an Engineer's Report, for the West Antioch Creek Improvements. The Engineer's Report recommended improving the West Antioch Creek channel from its crossing of what was then the Southern Pacific Railroad, (now Union Pacific Railroad), downstream to its confluence with the brackish marshes of the San Joaquin River. Recommended Improvements consisted of concrete-lined channels, trapezoidal earthen channels, and box culverts along the stream's length. In 1985, the County Board of Supervisors approved the EIR. In 1993, the District implemented a portion of the plan by constructing concrete-lined and earthen trapezoidal channel improvements from near the creek's confluence with the San Joaquin River to approximately 600 feet north of west 10th Street with local funds. However, upstream of the 1993 improvements, West Antioch Creek is conveyed in a small concrete-lined ditch up to 10th Street and then conveyed under 10th Street in two small structural plate steel arches. Flooding, which affects this area, occurs on nearly a yearly basis mainly due to fact that the arches and the ditch cannot convey even relatively small storm events under 10th Street and beyond. A project Feasibility Study was completed in May of 2010.	• Feasibility Study, Cost Protection Considerations, Preliminary Plan and Typical Sections (2010)

Project	Summary of Completed Work and Key Findings	Existing Data and Studies
7 - Upper Sand Creek Basin	A Feasibility Study and preliminary design was completed in July of 2010. Project plans and specifications are currently at 90 percent, and are expected to be complete by February 1, 2011. In addition, CEQA documentation is complete; the Initial Study/Mitigated Negative Declaration (IS/MND) was finalized on November 3, 2010. The project was presented to Habitat Conservation Plan / Natural Community Conservation Plan (HCP / NCCP) Board on September 22, 2010. The US Army Corps of Engineers Section 404 Permit application, submitted in 2010, found that the Project will permanently impact 3,876 feet of creek (Corps-jurisdictional feature); 3,612 feet will be restored; and the remaining 264 feet will be recreated as permanent and seasonal wetlands on site. The Regional Water Quality Control Board Section 401 Water Quality Certification and the Department of Fish and Game, Lake and Streambed Alteration Agreement applications will be submitted prior to June 1, 2011. Major findings include impacts to jurisdictional wetlands (2.62 acres) which will be mitigated in-kind (1:1 for permanent wetlands and 2:1 for seasonal wetlands). In addition, approximately 0.60 acres of riparian woodland will be permanently impacted which will be mitigated on-site at a 1:1 ratio.	• Feasibility Study and preliminary design • Army Corps Section 404 Permit Application
8 - Watershed Protection and Restoration	This project includes acquisition of a high priority acquisition area identified in the East Contra Costa County HCP / NCCP, which serves as a feasibility-level study supporting this project. The Conservancy has an on-going program to do this work and has many parcels in play at any given time.	• HCP / NCCP

Project Timing/Phasing and Synergies/Linkages

The projects included in this grant application are capable of providing the benefits claimed in the absence of other projects; as a result, implementation of the tasks described in this Attachment will yield full benefits, and the schedules of proposed projects are not interdependent. However, several of the projects included in this application are elements of larger projects or programs and funding received through this grant opportunity will be leveraged to implement a component of a larger project.

For example, the ***Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project*** is a component of a larger program to encase the Contra Costa Canal to provide water quality benefits, reduce the risk of flooding, and enhance public safety. Construction of the full Project is multi-phased. In total, there are three construction phases of the Project. Phase 1 of the Project, completed in 2009, installed approximately 1,900 LF of pipeline from CCWD's Pumping Plant 1 to Marsh Creek. The Canal Levee Elimination and Flood Mitigation Project is also linked to the Dutch Slough Tidal Marsh Restoration project. The Dutch Slough Tidal Marsh Restoration project is a critical early action to improve the ecosystem health of the Sacramento-San Joaquin Delta, a point highlighted by Governor Schwarzenegger in a July 2007 statement and its inclusion in the Interim Delta Plan. The completion of the legislatively-mandated Dutch Slough Tidal Marsh Restoration project is dependent on the construction of 11,000 ft of the pipeline adjacent to the Dutch Slough Restoration site. Mitigation term 3.1.1-5 of the Dutch Slough EIR Mitigation Monitoring and Reporting Program states "To avoid potential negative impacts to water quality within the Contra Costa Canal from groundwater intrusion, breaching of the Dutch Slough project site will not commence until encasement of the Canal south of the site is complete."

The ***Upper Sand Creek Basin*** project may be linked with nearby large-scale grading projects such as the Highway 4 Bypass Sand Creek Road Interchange or the BART Antioch Station. Coordination of USCB with other projects needing fill material will reduce the costs and truck traffic associated the construction of both projects.

Finally, the ***Watershed Protection and Restoration Project*** will further the goals and objectives of the East County HCP / NCCP by acquiring a high-priority parcel identified in the Plan, providing important benefits to listed species. This project is part of the Conservancy's an ongoing program for watershed protection and restoration. In the first 2 years of implementing the Plan, the Conservancy has conserved approximately 7,500 acres of land and resorted over 8 acres of wetlands. The ***Watershed Protection and Restoration Project*** is also linked to Contra Costa Water District's projects and ultimate supply allotment. The successful implementation of the HCP/NCCP by the Conservancy is linked to the Contra Costa Water District's water supply. Wildlife agencies required that a HCP/NCCP be adopted and implemented in the region for CCWD to draw its full allotment of water from the Delta. Without the HCP/NCCP and its successful efforts to acquire and restore land, CCWD's water supply cannot be maximized. CCWD provides treated and raw water to most of the East County region.

Tasks

This section includes a detailed discussion of the various tasks needed to implement each project and collectively this proposal. In accordance with the PSP, this section specifically addresses the following:

PSP Requirements

- ✓ Tasks are detailed and complete in order to demonstrate that projects can be implemented
- ✓ Work Item submittals are clearly indicated for each of the tasks
- ✓ A list of project permits and their current status, is provided for each of the projects
- ✓ The status of environmental compliance activities is discussed
- ✓ If applicable, plans and specifications have been submitted to demonstrate consistency with the design tasks noted in the Work Plan
- ✓ For each of the projects, scientific and technical information has been submitted to demonstrate feasibility
- ✓ For each of the projects, there is a discussion of the data management and monitoring deliverables
- ✓ For each of the projects, there is a site map showing the geographical location and site boundaries
- ✓ In addition, each project write-up below includes a discussion of the required items listed on page 31of the PSP:
  - o Description of work to be performed and current status of each task
  - o Procedures by which the applicant will coordinate with its partner agencies
  - o Discussion of standards used in implementation
  - o Development of performance measures and monitoring plans
  - o Discussion of acquisition of land or rights-of-way status
  - o Discussion of merits of materials and computational methods

Proposal Project **Page**

Task 1 – East County Conservation Program

Project Summary:

The East County Conservation Program is comprised of three elements: (1) HET Rebates; (2) Leak Detection and Repair; and (3) SMART (ET) Irrigation Controller Conversion. Implementation of these projects will result in a combined savings of 1,138 AFY of valuable Delta and groundwater supplies and are critical for achieving compliance with SB 7x7 which requires a 20 percent reduction in per capita water use by 2020.

- The **HET Rebate project** would increase the current value of rebates being offered in DWD's service area to cover both the purchase and installation of high efficiency toilets. It is anticipated that this program will result in the replacement of 490 toilets installed prior to 1992 (and therefore are 3.5-5 gpf toilets) with 1.28 gpf HETs.
- The **Leak Detection and Repair Project** involves the inspection and of 7 miles of distribution system pipelines within DWD's service area that are suspected of having leaks due to the corrosive nature of the soil, and subsequent repair of any leaks found.
- The **SMART (ET) Irrigation Controller Conversion** project is a multi-year program that would convert existing irrigation controllers over to SMART programmable ET-based irrigation controllers for approximately 7500 residential properties within the City of Brentwood.

Technical Documentation:

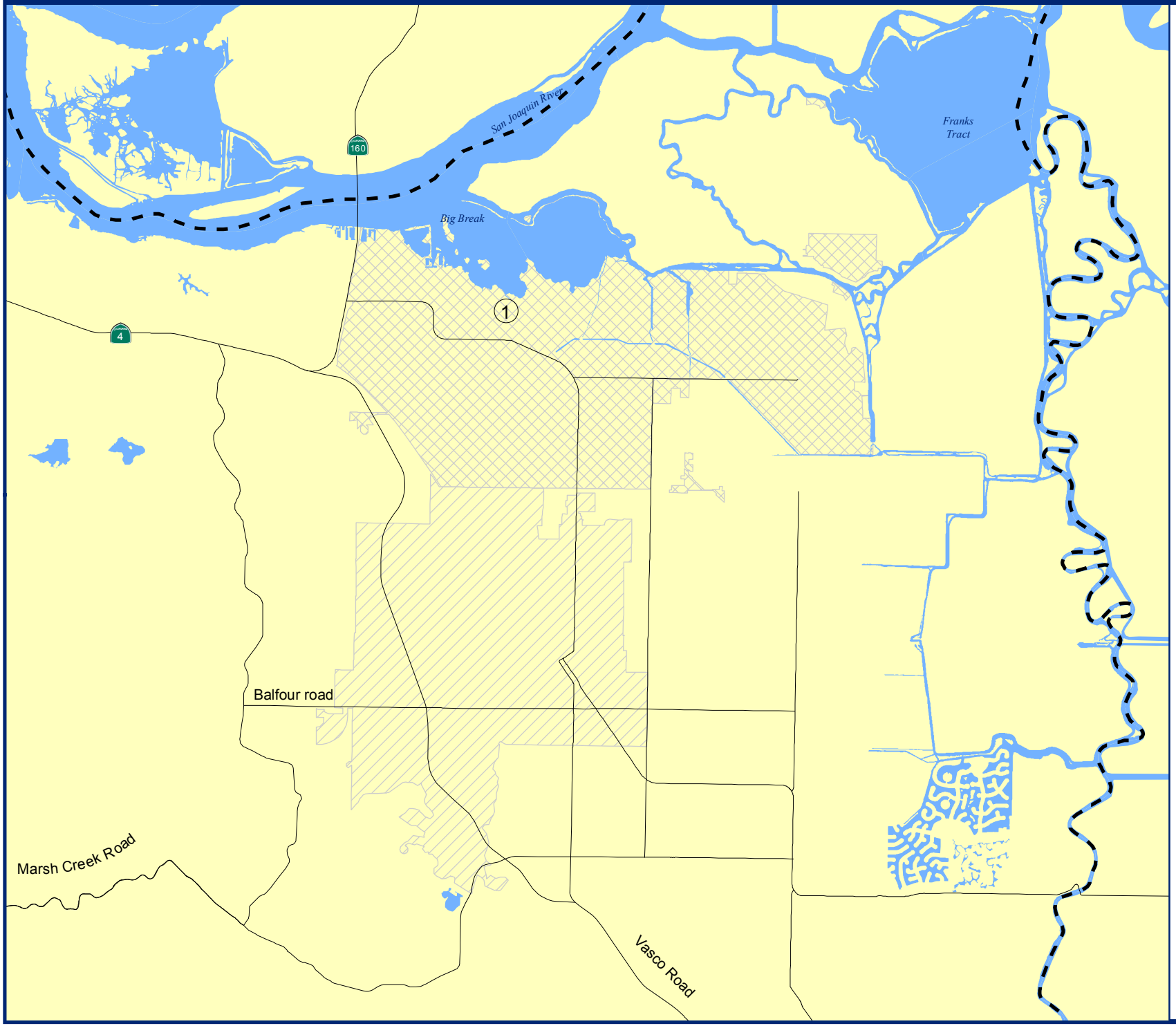
Technical documents that support the feasibility of this project include:

- HET Rebate Program Savings Spreadsheet, developed by CCWD (2010)
- Estimated HET installation costs (provided by Mike Yeraka, General Manager, DWD)
- Estimated costs of leak detection and repair (provided by Wayne Weaver, Assistant Superintendent of Operations, DWD)
- SMART (ET) Irrigation Controller Conversion Pilot Study (2009)

Project Map:

The figure on the following page shows the locations of the East County Water Conservation Program elements.

East County Water Conservation Program



Legend

- East CCC IRWMP Boundary
- Major Roads
- Water Bodies

East County Water Conservation Program*

- DWD HET Rebate Program
- 1 DWD Leak Detection Locations
- Brentwood Water Conservation Measures

* Approximate location of project is represented. Where an area is indicated, the project will occur within the area - but may not cover the entire area.

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12/14/2010

Task 1A – Project Administration Tasks

This task involves general administration activities associated with the various elements of the East County Water Conservation Program.

Current Status:

Project administration activities to date have been minimal and primarily associated with coordinating the completion of the feasibility study phase of these conservation program elements

Proposed Work Tasks & Deliverables:

Proposed project administration tasks and deliverables are described in the table below.

Task	Description	Deliverables
1A.1 Project Administration (DWD)	This task involves activities relating to the administration of DWD's HET Rebate and Leak Detection and Repair projects, including: • coordination with project partners and recipients of rebate; • securing the services of consultants to help inspect for leaks in the distribution system; • review and approval of invoices; • labor program compliance; and • preparation of quarterly, annual and final progress reports documenting the status and performance of the project.	• Labor Compliance Program; • Quarterly, Annual and Final Reports to DWR
1A.2 Project Administration (Brentwood)	This task involves activities relating to the administration of Brentwood's SMART ET Irrigation Controller Conversion project, including • review and approval of invoices; • labor program compliance; and • preparation of quarterly, annual and final progress reports documenting the status and performance of the project.	• Labor Compliance Program; • Quarterly, Annual and Final Reports to DWR

Task 1B –Land Purchase/Easement Tasks

The East County Water Conservation Program does not involve any land purchase or easement tasks.

Task 1C – Planning/Design/Environmental Documentation Tasks

The task involves the primary engineering and environmental documentation tasks relating to the East County Water Conservation Program.

Current Status:

Planning and Design Status. Feasibility level planning and analysis is complete for all three elements of the East County Water Conservation Program: (1) HET Toilet Rebate; (2) Leak Detection and Repair; and (3) SMART (ET) Irrigation Controller Conversion.

Environmental Documentation Status**.** These projects included in the East County Water Conservation Program are categorically exempt.

Permitting Status**.** Only the Leak Detection and Repair program element will require any permits. The status is discussed in the table below.

Permit	Current Status
Encroachment Permit from City of Oakley	Permit process not yet started.

Proposed Work Tasks & Deliverables:

Proposed planning/design/environmental documentation and permitting tasks and deliverables are described in the table below.

Task	Description	Deliverables
1C.1 HET Public Outreach	This task involves the development, printing and mailing a flyer informing DWD's customers of the High Efficiency Toilet Rebate program. This flyer will be included with the 11,000 water bills.	• HET Rebate Flier
1C.2 Leak Detection Activities	This task, to be performed by the selected consultant, involves inspection of the 7 miles of the distribution system pipelines and confirming areas of leaking pipes. The Consultant shall prepare a Leak Detection report summarizing the findings.	• Leak Detection Report
1C.3 Leak Repair Permitting	This task involves securing the required encroachment permit for the City of Oakley for the repair of water mains in public streets	• Encroachment Permit
1C.4 SMART (ET) Irrigation Controller Outreach Program	This task involves development of public outreach materials (e.g., flyers, mailing inserts, meeting materials), and implementation of an aggressive outreach program via participation in several community events and forums (e.g. City Council Meetings, Brentwood Advisory Neighborhood Committee meetings, school assemblies, etc) to inform the residents of Brentwood about the SMART (ET) Irrigation Controller Program. It also involves coordinating with residents that have questions about the program and/or are interested in participating and scheduling the irrigation controller conversions for their properties.	• Flyers • Mailing Inserts

Task 1D – Construction/Implementation Tasks

This task involves implementation of the East County Water Conservation Program elements.

Current Status:

No work has been completed to date on this task.

Proposed Work Tasks & Deliverables:

Proposed implementation tasks and deliverables for the East County Water Conservation program are described in the table below.

Task	Description	Deliverables
1D.1 Issuance of HET Rebate Checks	This task involves coordinating with DWD customers who participate in the program to ensure they receive a check rebating the cost of installing a High Efficiency Toilet. The customer must provide receipts for the installation before rebates will be issued.	• Copies of checks issued
1D.2 Proposal Solicitation	This task involves soliciting proposals to repair the leaks and coordinating a site visit for the contractors. Proposals will be evaluated and the lowest responsive bid will be selected.	• Advertisement for Bid; • Bid Summary • Award of contract
1D.3 Leak Repair and Inspection	This task, to be performed by the selected consultant, involves repairing the broken service saddles or valves that were identified in the Leak Detection report. DWD inspectors will be present during the repair and will prepare an inspection report documenting that the leak was fixed.	• Inspection Reports
1D.4 Proposal Solicitation for ET Controller Installation	This task involves soliciting proposals from companies to install the ET Controllers and train the residents on how to use the device.	• Bid summary • Award of contract
1D.5 Purchase Irrigation Controllers	This task involves purchasing the SMART (ET) irrigation controllers to be installed.	• Copy of purchase order
1D.6 Irrigation Controller Installation and Training	This task, to be performed by the selected consultant, involves installation of the SMART (ET) irrigation controllers and training of the home owner on the operation of the device. The number of installations and corresponding addresses will be documented in a quarterly report.	• Quarterly progress report

Task 1E – Environmental Compliance/Mitigation/Enhancement Tasks

There are no environmental mitigation activities associated with these projects. They are considered to be categorically exempt under CEQA. Minor mitigation activities associated with the repair work to be done as part of the Leak Detection and Repair Project (e.g., traffic control, dust control) would be implemented by the contractor and the construction fees already include these types of activities.

Task 1F – Construction Administration Tasks

This task involves construction administration activities associated with implementing the East County Water Conservation Program.

Current Status:

No work has been completed on this task to date.

Proposed Work Tasks & Deliverables:

Construction administration tasks for the East County Conservation Program are summarized in the table below.

Task	Description	Deliverables
1F.1 Leak Repair Construction Administration	This task involves review of contractor submittals for materials to be used in the leak repair project, and review and approval of invoices from the leak detection and repair contractor.	• Copies of approved invoices
1F.2 Irrigation Controller Construction Administration	This task involves coordination with the controller installation company on scheduling installations and review and approval of their invoices.	• Copies of approved invoices

Additional Project Information

Additional detail about the project, as requested by the PSP, is provided below:

Coordination with Partner Agencies:

- The City of Oakley will participate in the program by allowing DWD to advertise on their electronic billboard and in their newsletter.
- CCWD is participating in this program by providing rebates to DWD customers for purchase of HETs; the DWD program will offset the HET installation costs. CCWD also assisted in developing estimates of water savings associated with program implementation.

Standards that Will Be Used in Implementation:

- All HET work will comply with the Uniform Building Code.

- All leak repair work will comply with the Standard Plans and Specifications of the DWD and the American Water Works Association.
- All irrigation controller installation will comply with the Uniform Building Code.

Performance Measures and Monitoring Plans:

Performance Measures and monitoring plans for the East County Water Conservation Program are included in Attachment 6.

Merits of Materials and Computational Methods:

- HETs are widely accepted the industry as a proven conservation saving technology that use 20% less water per flush than the 1.6 gpf toilets that have been mandated by code since 1992. According to the California Urban Water Conservation Council (CUWCC), HETs have been available in the marketplace here in California since 1999 and 18 different manufactures currently offer over 95 models of HETs.
- Any repair work will use materials that are approved by the standard plans and specifications of the DWD and the American Water Works Association.
- SMART irrigation controllers are a new generation of controllers that use actual weather conditions to determine the appropriate amount of water needed for irrigation.

Deliverables to DWR:

- Quarterly, Annual and Final Progress Reports
- Leak Detection Report
- Approved invoices for Leak Detection and Repair contractors
- Approved invoices for irrigation controller installation contractor

Task 2 – East County Water Meter Installation Program

Project Summary:

This program involves two elements: (1) installation of 110 residential water meters within DWD's service area; and (2) installation of 106 meters for landscaping customers within CCWD's service area. Installation of meters for these "flat rate", unmetered customers is expected to provide up to 20% savings of valuable Delta and Groundwater supplies. These projects are needed in order to meet the requirements of AB1420.

Technical Documentation:

Technical documents that support the feasibility of these projects include

- CCWD Unmetered Database (2010)
- DWD Standard Plans and Specifications

Project Map:

The figure on the following page shows the locations of the proposed water meter installation projects within CCWD's and DWD's service areas.

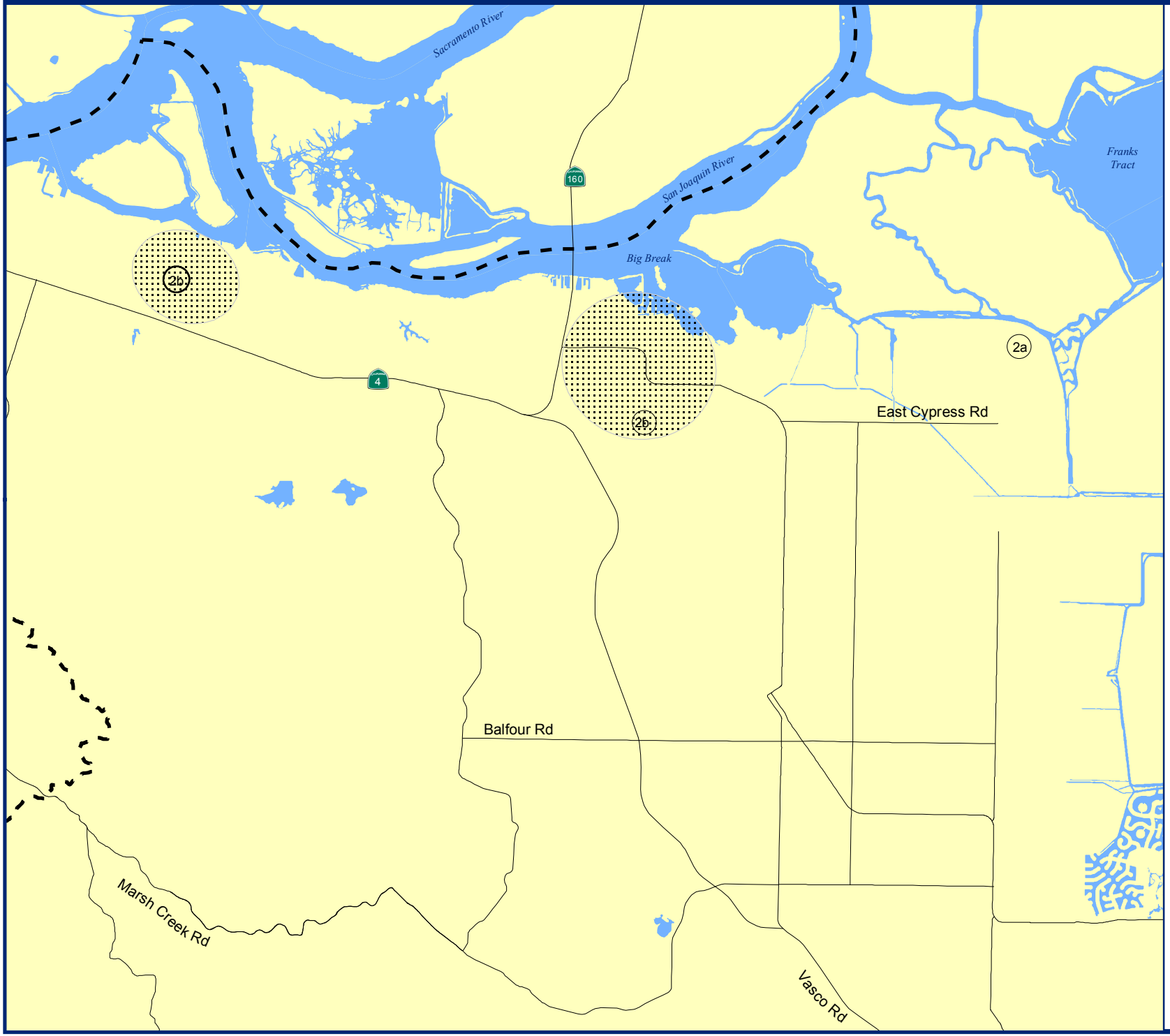
Task 2A – Project Administration Tasks

This task involves general administration activities associated with the various elements of the East County Water Conservation Program.

Current Status:

Project administration activities to date have been minimal and primarily associated with defining the scope for the meter installation activities (e.g., the number and location of meter installations) and updating existing databases of unmetered accounts.

East County Water Meter Installation Program



Legend

- East CCC IRWMP Boundary
- Major Roads
- Water Bodies

East County Water Meter Installation Program*

- 2a DWD Water Meters
- 2b CCWD Water Meters

* Approximate location of project is represented. Where an area is indicated, the project will occur within the area - but may not cover the entire area.

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Proposed Work Tasks & Deliverables:

Proposed project administration tasks and deliverables are described in the table below.

Task	Description	Deliverables
2A.1 Project Administration (DWD)	This task involves activities relating to the administration of DWD's program to install 110 residential water meters within the Knightsen and Willow Park Maria areas, including: • coordination with project partners and the affected property owners; • preparation of quarterly, annual and final progress reports documenting the status and performance of the project. It should be noted that the meter installation will be performed by DWD staff, so labor compliance is not required for this project.	• Quarterly, Annual and Final Reports to DWR
2A.2 Project Administration (CCWD)	This task involves activities relating to the administration of CCWD's program to install 106 meters for landscaping customers within the East County area, including: • coordination with project partners and the affected property owners; • preparation of quarterly, annual and final progress reports documenting the status and performance of the project. It should be noted that meter installation will be performed by CCWD staff, so labor compliance is not required for this project.	• Quarterly, Annual and Final Reports to DWR

Task 2B –Land Purchase/Easement Tasks

This task is not applicable to the East County Water Meter Installation Program.

Task 2C – Planning/Design/Environmental Documentation Tasks

The task involves the primary engineering and environmental documentation tasks relating to the East County Water Meter Installation Program.

Current Status:

Planning and Design Status. Feasibility level analysis and planning is complete. Both DWD and CCWD have defined the meter installation project and determined the number, cost and location of meter installations needed. In addition, CCWD has meter design documents available from a previous meter installation program conducted in 2006 that can be used for this project.

Environmental Documentation Status**.** The water meter installation projects in DWD and CCWD's service area have been determined to be categorically exempt from CEQA.

Permitting Status**.** The water meter installation projects do not require any permits.

Proposed Work Tasks & Deliverables:

Proposed planning/design/environmental documentation and permitting tasks and deliverables are described in the table below.

Task	Description	Deliverables
2C.1 Outreach to affected DWD customers	This task involves the development, printing and mailing of a flyer to the 110 DWD customers informing them of the water meter installation program.	• Flyer
2C.2 Outreach to affected CCWD customers	This task involves the development, printing and mailing of a flier to the 106 CCWD customers informing them of the water meter installation program.	• Flyer

Task 2D – Construction/Implementation Tasks

This task involves implementation of the East County Water Meter Installation Program elements.

Current Status:

No work has been completed to date on this task.

Proposed Work Tasks & Deliverables:

Proposed implementation tasks and deliverables for the East County Water Meter Installation program are described in the table below.

Task	Description	Deliverables
2D.1 Purchase and Install DWD Meters	This task involves the purchase and installation of 110 residential water meters within the Knightsen and Willow Park Marina area. This task will be completed by DWD staff	• Purchase order • Quarterly report on status of meter installation
2D.2 Purchase and Installation of CCWD Meters	This task involves the purchase and installation of 106 water meters and associated installation materials for existing unmetered irrigation customers within CCWD's service area.	• Purchase order • Quarterly report on status of meter installation

Task 2E – Environmental Compliance/Mitigation/Enhancement Tasks

There are no environmental mitigation activities associated with this project.

Task 2F – Construction Administration Tasks

Since the meter installations will be performed by DWD and CCWD staff, this task is not applicable.

Additional Project Information

Additional detail about the project, as requested by the PSP, is provided below:

Coordination with Partner Agencies:

- The City of Oakley will participate in the program by allowing DWD to advertise on their electronic billboard and in their newsletter.

Standards that Will Be Used in Implementation:

- All work will comply with the Standards of the American Water Works Association.

Performance Measures and Monitoring Plans:

Performance Measures and monitoring plans for the East County Water Meter Installation Program are included in Attachment 6.

Merits of Materials and Computational Methods:

- Installation of water meters is a proven method for reducing water consumption and is required by AB 1420.

Deliverables to DWR:

- Quarterly, Annual and Final Progress Reports

Task 3 – Brentwood Non-Potable Water Supply Project

Project Summary:

This project involves extending recycled water service via installation of 9,400 linear feet of 12" pipeline to provide irrigation supply to 29 acres of municipal and utility-owned lands). The project will offset 88 AFY of potable water supplies (Delta, groundwater) currently being used to irrigate these lands.

Technical Documentation:

Technical documents that support the feasibility of this project include:

- Water Master Plan (YYYY)
- Design RFP (2010)

Project Map:

The figure on the following page shows the location of the Brentwood Non-Potable Water Supply Project.

Task 3A – Project Administration Tasks

This task involves general administration activities associated with the Brentwood Non-Potable Water Supply project.

Current Status:

Project administration activities to date have been minimal and primarily associated with defining the project and issuing a Request for Proposals (RFP) for design of the project.

Proposed Work Tasks & Deliverables:

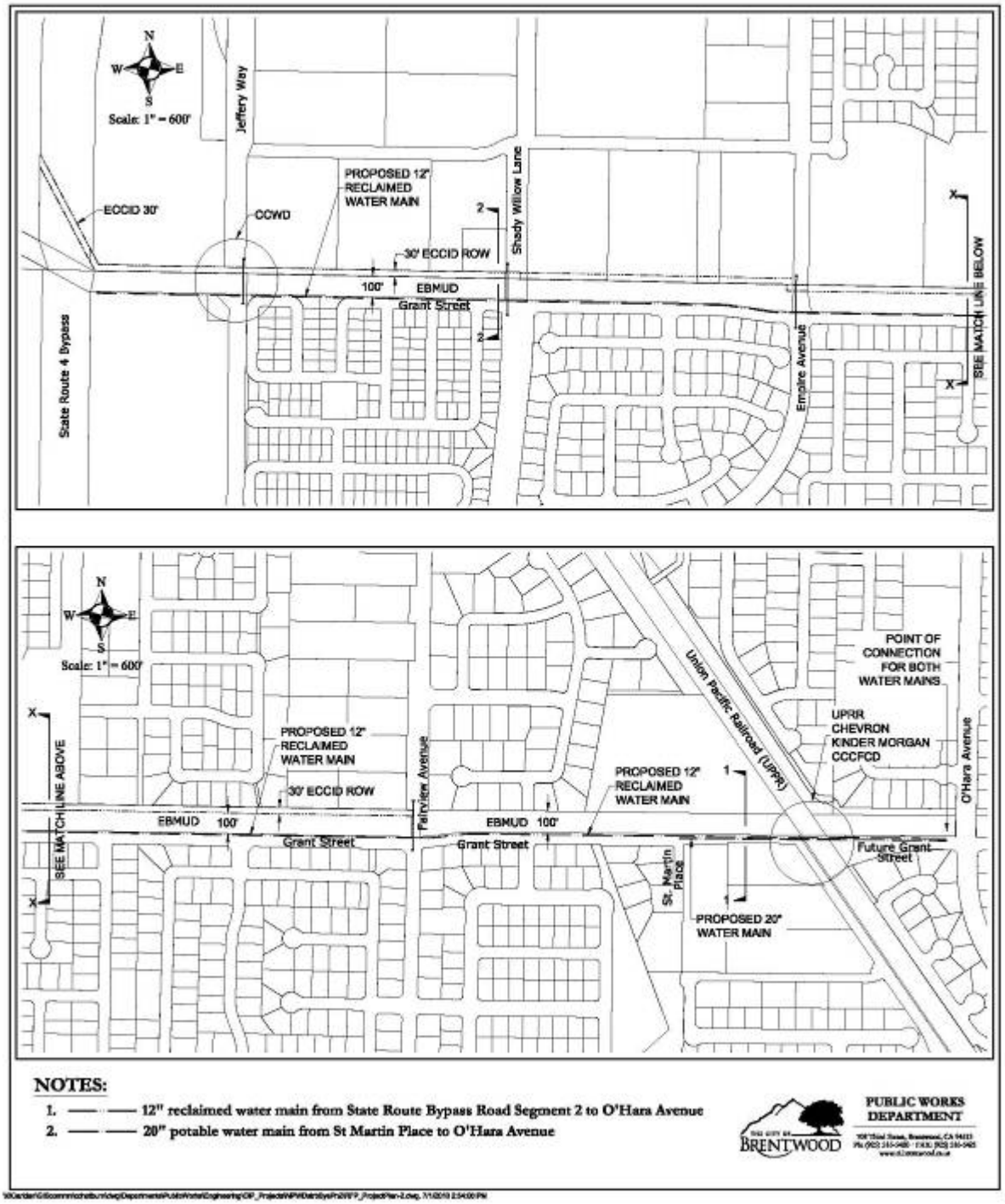
Proposed project administration tasks and deliverables are described in the table below.

Task	Description	Deliverables
3A.1 Project Administration	This task involves activities relating to the administration of the Brentwood Non-Potable Water Supply Project, including: • coordination with the design consultant and irrigation customer representatives ; • review and approval of design consultant invoices; • labor program compliance; • preparation of quarterly, annual and final progress reports documenting the status and performance of the project.	• Labor Compliance Program • Approved invoices • Quarterly, Annual and Final Reports to DWR

Project Map for Task 3 - Brentwood Non-Potable Water Supply Project

PROJECT LOCATION PLAN

Non-Potable Water Distribution System - Phase II, CIP Project No. 592-59180
and Water Systems Connections/Regulating, CIP Project No. 562-56280



NOTES:

1. —— —— 12" reclaimed water main from State Route Bypass Road Segment 2 to O'Hara Avenue
2. —— —— 20" potable water main from St Martin Place to O'Hara Avenue

BRENTWOOD
PUBLIC WORKS DEPARTMENT

Task 3B –Land Purchase/Easement Tasks

This task is not applicable to the Brentwood Non-Potable Water Supply project

Task 3C – Planning/Design/Environmental Documentation Tasks

The task involves the primary engineering and environmental documentation tasks relating to the Brentwood Non-Potable Water Supply Project

Current Status:

Planning and Design Status. A master plan defining the Brentwood Non-Potable Water Supply Project is complete and the alignment and sizing of the project has been determined. A Request for Proposals (RFP) for design of the project was issued in 2010 and it is anticipated that award of the design contract will occur in February 2011. The current design schedule anticipates 30% Plans and Specifications being developed by April 2011, 60% plans and specifications being developed by May 2011. Tasks involved in completed the design, which is anticipated for August 2011, are discussed in the *Proposed Work Tasks and Deliverables* section below.

Environmental Documentation Status**.** Environmental documentation for the Non-Potable Water Supply Project has not yet started. Given that the project involves extending existing recycled water service to additional irrigation customers, it is expected that an Initial Study/Mitigated Negative Declaration (IS/MND) will be the appropriate environmental process. Tasks involved in completing the environmental documentation process are discussed in the *Proposed Work Tasks and Deliverables* section below.

Permitting Status**.** Permitting activities for this project have not yet started. It is anticipated that this project will require a permit from Union Pacific Railroad (UPRR).

Permit	Status
Union Pacific Railroad Permit	Permit process not yet started.

Proposed Work Tasks & Deliverables:

Proposed planning/design/environmental documentation and permitting tasks and deliverables are described in the table below.

Task	Description	Deliverables
3C.1 Complete 90% Design	This task involves completion of 90% design plans and specifications for the Brentwood Non-Potable Water Supply Project, including all general, civil, mechanical and electrical drawings.	• 90% design documents

Task	Description	Deliverables
3C.2 Complete Final Design	This task involves completion of final design plans and specifications for the Brentwood Non-Potable Water Supply Project, including all general, civil, mechanical and electrical drawings.	• Final Design Plans and Specs
3C.3 Complete IS/MND	This task involves completion of the environmental documentation for the Brentwood Non-Potable Water Supply Project. It is anticipated that a Mitigated Negative Declaration will be required for this project; the Initial Study will confirm this assumption.	• IS/MND • Notice of Determination
C3.4 Secure UPRR Permit	This task involves securing a permit from UPRR.	• UPRR Permit

Task 3D – Construction/Implementation Tasks

This task involves construction of the Brentwood Non-Potable Water Supply Project.

Current Status:

No work has been completed to date on this task.

Proposed Work Tasks & Deliverables:

Proposed implementation tasks and deliverables for the Brentwood Non-Potable Water Supply Project are described in the table below.

Task	Description	Deliverables
3D.1 Bid Solicitation	This task involves advertising the Brentwood Non-Potable Water Supply Project for bid, bid opening, responding to contractor requests for information (RFIs) and preparing amendments as needed, review of the bids submitted and awarding the contract to the successful bidder.	• Advertisement for Bid; • Bid Summary • Award of contract
3D.2 Construction	This task involves construction of 9,400 linear feet of 12" pipeline to provide irrigation supply to 29 acres of landscaping. Specific construction activities include: • *Mobilization and Site Preparation* – This activity involves mobilization of labor and equipment to perform Contract work. • *Pipeline installation*- This activity involves installing 7,860 LF of 12" recycled water pipeline and all of the service laterals.	• As-builts

Task	Description	Deliverables
	• *Recycled Water Conversion*- This activity involves disconnecting the existing properties from the potable water irrigation supply and connecting those properties to the non-potable irrigation supply. • *Closeout* - This activity involves the demobilization of labor and equipment from the project site upon completion of work.	

Task 3E – Environmental Compliance/Mitigation/Enhancement Tasks

This task involves implementation of environmental mitigation/enhancements for the Brentwood Non-Potable Water Supply Project.

Current Status:

No work has been completed to date on this task.

Proposed Work Tasks & Deliverables:

Proposed environmental mitigation/enhancement tasks and deliverables for the Brentwood Non-Potable Water Supply Project are described in the table below.

Task	Description	Deliverables
3E.1 Environmental Mitigation Activities	This task involves implementation of any environmental mitigation/enhancements required for the Brentwood Non-Potable Water Supply Project. The specific activities cannot be itemized at this time because the environmental documentation for the project has not been completed yet; however, no significant mitigations are anticipated.	• Environmental mitigations (as needed)

Task 3F – Construction Administration Tasks

This task involves construction administration tasks associated with the Brentwood Non-Potable Water Supply Project.

Current Status:

No work has been completed to date on this task.

Proposed Work Tasks & Deliverables:

Proposed construction administration tasks and deliverables for the Brentwood Non-Potable Water Supply Project are described in the table below.

Task	Description	Deliverables
3F.1 Construction Administration	This task involves administration activities associated with the construction of the Brentwood Non-Potable Water Supply project, including: • Coordination with the contractor • Responses to RFIs and Change Order requests • Payment of contractor invoices • Public notification of construction activities • Other?	• Approved invoices • Quarterly progress reports

Additional Project Information

Additional detail about the project, as requested by the PSP, is provided below:

Coordination with Partner Agencies:

- East Bay Municipal Utility District

Standards that Will Be Used in Implementation:

- Construction of the Brentwood Non-Potable Water Supply Project will be done in accordance with the City's standard specifications and design standards.

Performance Measures and Monitoring Plans:

Performance Measures and monitoring plans for the Brentwood Non-Potable Water Supply Project are included in Attachment 6.

Merits of Materials and Computational Methods:

- Construction methods and materials used will comply with the Brentwood's design standards and specifications

Deliverables to DWR:

- Quarterly, Annual and Final Progress Reports
- Final Design Documents
- As-Builts

Task 4 – Pittsburg Recycled Water Pipeline Rehabilitation Project

Project Summary:

This project involves the rehabilitation of approximately 5,240 feet of 20-inch and 30-inch asbestos cement recycled water main using Cured-In-Place Pipe. The existing line (converted from a raw water pipeline) is over 35 years old, has experienced failures, and may not be able to withstand the increased operating pressures that will be needed for the service area. The rehabilitation will provide reliability and ensure continued delivery of approximately 526 AFY of Title 22 disinfected recycled water to Stoneman Park and Delta View Golf Course within the City of Pittsburg.

With the expansion of recycled water service now to the City of Antioch, DDSD will need to increase the system operating pressure from about 100 psi up to 150 psi. The combination of the age of this pipeline, past failures and change in operating parameters now significantly increases the risk of pipeline failure. One section of the pipeline to be rehabilitated is located beneath Highway 4. This section of pipeline is not encased and if a failure occurs, it may cause significant damage, undermining the roadway, and potentially endangering the public. A repair to a failure of this magnitude will be very costly, to the point that the customers may abandon the use of recycled water and revert back to using local groundwater sources or water from the Delta for landscape irrigation.

Technical Documentation:

Technical documents that support the feasibility of this project include:

- Feasibility Study (2010)

Project Map:

The figure on the following page shows the location of the Pittsburg Recycled Water Pipeline Rehabilitation Project.

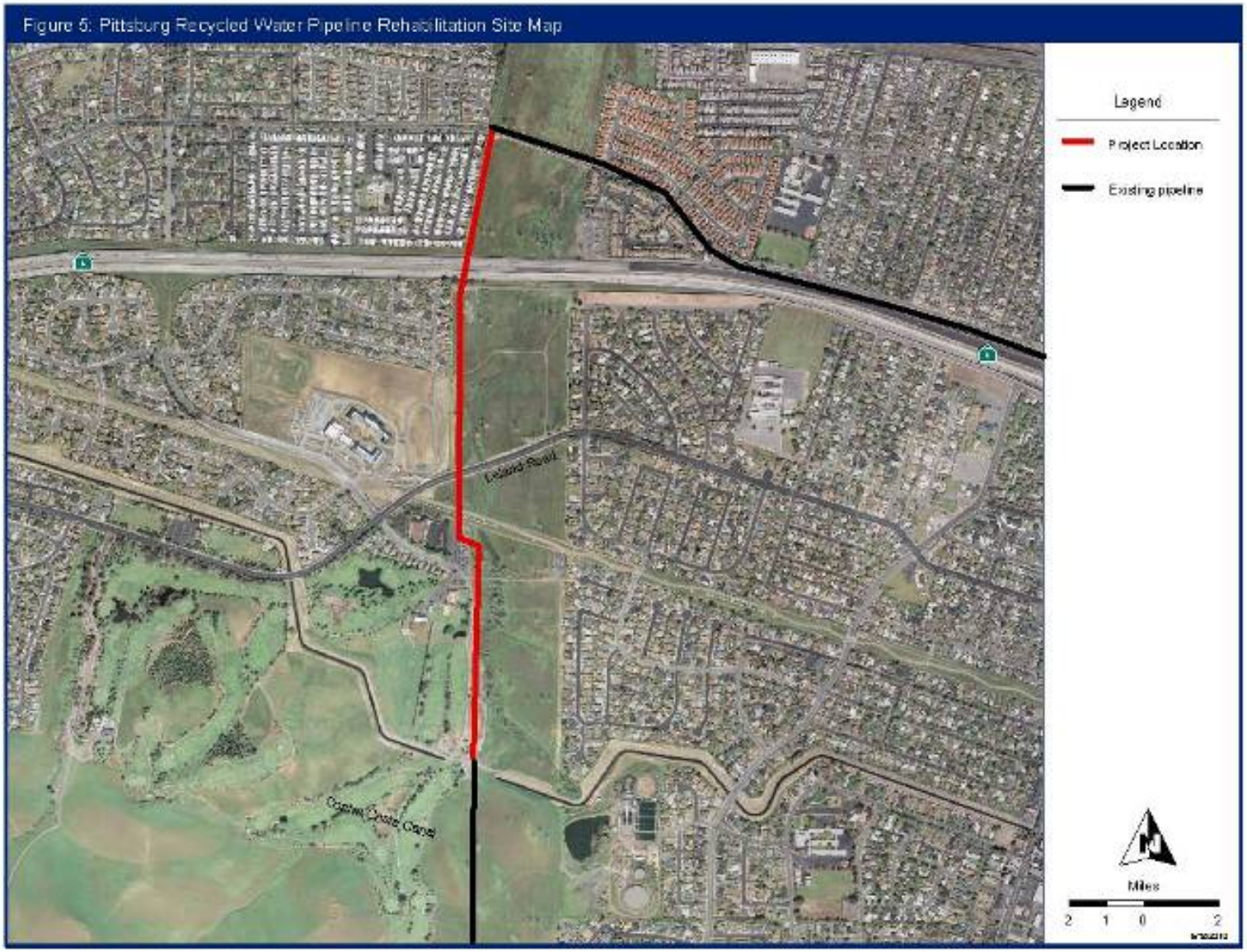
Task 4A – Project Administration Tasks

This task involves general administration activities associated with the Pittsburg Recycled Water Pipeline Rehabilitation Project.

Current Status:

Project administration activities to date have been minimal and primarily associated with completing the project feasibility study.

Project Map for Task 4 - Pittsburg Recycled Water Pipeline Rehabilitation Project



Proposed Work Tasks & Deliverables:

Proposed project administration tasks and deliverables are described in the table below.

Task	Description	Deliverables
4A.1 Project Administration	This task involves activities relating to the administration of the Pittsburg Recycled Water Pipeline Rehabilitation Project, including: • coordination with the City of Pittsburg and irrigation customers • review and approval of design consultant invoices; • development of a labor compliance program in accordance with State requirements; • preparation of quarterly, annual and final progress reports documenting the status and performance of the project.	• Labor Compliance Program • Approved invoices • Quarterly, Annual and Final Reports to DWR

Task 4B –Land Purchase/Easement Tasks

This task involves land purchase/easement activities associated with the Pittsburg Recycled Water Pipeline Rehabilitation Project

Current Status:

No work has been completed to date on this task.

Proposed Work Tasks & Deliverables:

Proposed project easement tasks are described in the table below.

Task	Description	Deliverables
4B.1 Easement Acquisition	This task involves acquiring temporary construction easements from Caltrans and PG&E, if necessary, to perform the rehabilitation work in their rights-of way.	• Easement agreements

Task 4C – Planning/Design/Environmental Documentation Tasks

The task involves the primary engineering and environmental documentation tasks relating to the Pittsburg Recycled Water Pipeline Rehabilitation Project

Current Status:

Planning and Design Status. The feasibility study for the Pittsburg Recycled Water Pipeline Rehabilitation Project was completed in 2010. Development of financing is expected to be completed in early 2011. The current design schedule anticipates design of this project starting in June 2011 and

being completed by September 2011. Tasks involved in completing the design are discussed in the *Proposed Work Tasks and Deliverables* section below.

Environmental Documentation Status**.** No environmental documentation work has been done to date, however, the Pittsburg Recycled Water Pipeline Rehabilitation Project is considered categorically exempt under CEQA.

Permitting Status**.** No permitting activities have been completed to date. Tasks involved in completing the design are discussed in the *Proposed Work Tasks and Deliverables* section below.

Permit	Status
Encroachment permits, if needed, from CCWD and EBMUD.	Permit process not yet started.

Proposed Work Tasks & Deliverables:

Proposed design, environmental documentation and permitting tasks are described in the table below.

Task	Description	Deliverables
4C.1 50% Submittal	This task involves the preparation of the 50% plans and specifications for the Pittsburg Recycled Water Pipeline Rehabilitation Project.	• 50% design submittal
4C.2 90% Submittal	This task involves the preparation of the 90% plans and specifications for the Pittsburg Recycled Water Pipeline Rehabilitation Project	• 90% design submittal
4C.3 Final Submittal	This task involves finalizing the project design and preparing the final bid set of plans and specifications	• Final contract documents
4C.4 Environmental Documentation	This task involves preparing and filing a Categorical Exemption for the project.	• Notice of Exemption
4C.5 Permit Acquisition	This task involves acquiring the permits, if necessary, within various agency's right-of-way to perform the rehabilitation work	• Executed permits

Task 4D – Construction/Implementation Tasks

This task involves construction of the Pittsburg Recycled Water Pipeline Rehabilitation Project.

Current Status:

No work has been completed to date on this task.

Proposed Work Tasks & Deliverables:

Proposed implementation tasks and deliverables for the Pittsburg Recycled Water Pipeline Rehabilitation Project.

Task	Description	Deliverables
4D.1 Bid Solicitation	This task involves advertising the Pittsburg Recycled Water Pipeline Rehabilitation Project for bid, bid opening, responding to contractor requests for information and preparing amendments as needed, review of the bids submitted and awarding the contract to the successful bidder.	• Advertisement for Bid • Bid Summary • Award of contract
4D.2 Construction	This task involves rehabilitation of approximately 5,240 feet of 20-inch and 30-inch asbestos cement recycled water main using Cured-In-Place Pipe. Specific construction activities include: • Mobilization of labor and equipment • On-site construction activities needed to rehabilitate the pipeline including ancillary work to complete the project • Testing of materials to ensure compliance with contract documents • Demobilization of labor and equipment upon completion of work.	• Record drawings • On-site inspection reports • Third-party testing reports

Task 4E – Environmental Compliance/Mitigation/Enhancement Tasks

This task involves identifying and mitigating environmental impacts (e.g., construction impacts) associated with the Pittsburg Recycled Water Pipeline Rehabilitation Project. No significant impacts are anticipated with this project.

Task 4F – Construction Administration Tasks

This task involves construction administration tasks associated with the Pittsburg Recycled Water Pipeline Rehabilitation Project.

Current Status:

No work has been completed to date on this task.

Proposed Work Tasks & Deliverables:

Proposed construction administration tasks and deliverables for the Pittsburg Recycled Water Pipeline Rehabilitation Project are described in the table below.

Task	Description	Deliverables
4F.1 Construction Administration	This task involves administration activities associated with the construction of the Pittsburg Recycled Water Pipeline Rehabilitation Project, including: • Construction Management • Inspection activities • Responses to RFIs and Change Order requests • Payment of contractor invoices • Public notification of construction activities	• Approved invoices • Quarterly progress reports

Task 4G – Other Tasks

This task involves addressing any legal matters associated with securing easements and/or permits for the Pittsburg Recycled Water Pipeline Rehabilitation Project.

Current Status:

No work on this task has been completed to date

Proposed Work Tasks & Deliverables:

Proposed legal tasks and deliverables are described in the table below.

Task	Description	Deliverables
4G.1 Legal	This task involves addressing legal matters with District legal counsel associated with obtaining easements and/or permits needed to implement the project	• Permits/Easements

Additional Project Information

Additional detail about the project, as requested by the PSP, is provided below:

Coordination with Partner Agencies:

This is a joint project with the City of Pittsburg, formalized through a JPA.

Standards that Will Be Used in Implementation:

- Construction of the Pittsburg Recycled Water Pipeline Rehabilitation Project will be done in accordance the public contracting code, applicable construction standards and CalOSHA requirements.

Performance Measures and Monitoring Plans:

Performance Measures and monitoring plans for the Pittsburg Recycled Water Pipeline Rehabilitation Project are included in Attachment 6.

Merits of Materials and Computational Methods:

- Construction methods and materials used will comply with the DDSD's design standards and specifications

Deliverables to DWR:

- Quarterly, Annual and Final Progress Reports
- Final Design Documents
- Record Drawings

Task 5 – Phase 2 Contra Costa Canal Levee Elimination and Flood Protection Project

Project Summary:

The purpose of the Contra Costa Canal Levee Elimination and Flood Protection Project (Project) is to replace 21,000 feet of the unlined Contra Costa Canal with a pipeline to improve source water quality available to CCWD by preventing intrusion of poor quality groundwater; eliminate up to eight miles of aging canal embankments that were not intended to provide flood protection, though they are currently relied upon for that purpose; and improve security and public safety by preventing access to the open water canal. Encasing the canal could result in a reduction of specific conductance (salinity) of approximately 40 mS/cm depending on operational and environmental conditions.

Construction of the Project is multi-phased. In total there are three construction phases of the Project. Phase 1 of the Project, completed in 2009, installed approximately 1,900 LF of pipeline from Contra Costa Water District's (District) Pumping Plant 1 (PP1) to Marsh Creek. Phase 2 of the Project will consist of installing a pipeline starting at the terminus of the Phase 1 Project and extending to East Cypress Road. Phase 2 of the Project has been designed for flexibility to install pipeline consistent with the level of funding available at the time. Phase 3 of the Project will extend the pipeline to the Rock Slough Fish Screen (currently under construction and will be completed in the summer of 2011) which will be partially funded by the adjacent landowners. Permitting and mitigation negotiations for the entire 21,000 LF Project were completed in 2007. CCWD acquired wetland and upland habitat (burrowing owl & giant garter snake) mitigation land at Holland tract. CCWD has acquired 47 acres of wetland and 98 acres of upland habitat through the Wildlands Company. This project is Phase 2 of the full project, which includes replacing approximately 400 feet of the canal with a pipeline and eliminating associated canal embankments. Phase 2 also includes a crossing of Marsh Creek.

The Contra Costa Canal Levee Elimination and Flood Protection Project has been identified as an Early Action by the Delta Stewardship Council in the Interim Delta Plan. If the Contra Costa Canal Levee Elimination and Flood Protection Project does not move forward with Phase 2 of the Project quickly, the Dutch Slough Restoration Project (legislatively mandated, SBX7-1 Section 85085) will be delayed. If the Project does not move forward, flood risks will persist if not increase. Water quality will continue to degrade, necessitating more treatment and more water released from storage to meet water quality delivery goals.

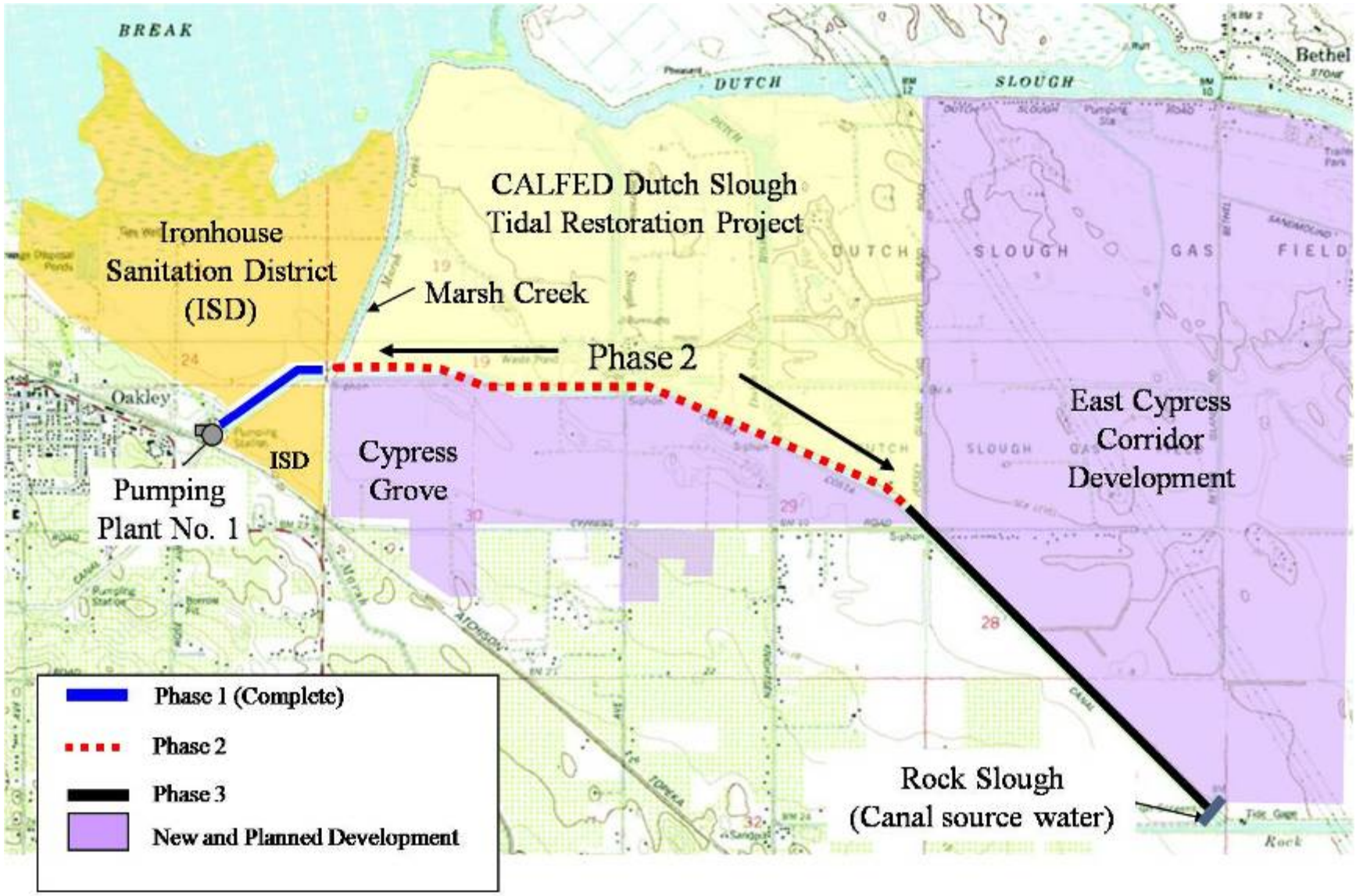
Technical Documentation:

Technical documents that support the feasibility of this project include:

- Preliminary and Final Design
- Environmental Documentation

Project Map:

The Project Map is provided on the following page.


BREAK
DUTCH
SLOUGH
Bethel
CALFED Dutch Slough
Tidal Restoration Project
Ironhouse
Sanitation District
(ISD)
Marsh Creek
Phase 2
Oakley
ISD
Pumping
Plant No. 1
Cypress
Grove
East Cypress
Corridor
Development
GAS
FIELD
Rock Slough
(Canal source water)
Phase 1 (Complete)
Phase 2
Phase 3
New and Planned Development

Task 5A – Project Administration Tasks

Project administration tasks will include overall project administration and management, development of a Labor Compliance Program, and project reporting (including reporting on project monitoring and assessment).

Current Status:

No work has been completed on this task to-date.

Proposed Work Tasks & Deliverables:

Project administration tasks and deliverables are summarized in the following table.

Task	Description	Deliverables
5.A. Administration	This task involves general project administration including coordination with project partners and preparation of project invoices. In addition, this task includes development of the quarterly, annual and final reports required by the Grant Agreement and development of the Labor Compliance Program.	Invoices Quarterly, Annual and Final Reports Labor Compliance Program

Task 5B –Land Purchase/Easement Tasks

An easement will be required to be obtained from the Department of Water Resources to allow construction contractor access, staging, and dewatering disposal through irrigation of existing farmlands.

Current Status:

No work has been completed on this task to-date.

Proposed Work Tasks & Deliverables:

Land purchase / easement tasks and deliverables are summarized in the following table.

Task	Description	Deliverables
5.B. Land Purchase / Easements	Obtain an easement from DWR, similar to Phase 1 easement, allowing construction contractor access, staging, and dewatering disposal through irrigation of existing farmlands.	Plats, legal descriptions and final easement agreement

Task 5C – Planning/Design/Environmental Documentation Tasks

Project planning and design are complete, and environmental documentation has been filed. As a result, no planning, design, or environmental compliance funding will be requested for this project.

Current Status:

Planning and Design Status. Project planning and design are underway and are scheduled to be completed by June of 2011.

Environmental Documentation Status. Environmental documentation is complete. CEQA was satisfied through filing of a Notice of Determination on Nov 30, 2006. The project was found to have no significant effects on the environment. NEPA was satisfied through filing of a Finding of No Significant Impact (FONSI) on July 11, 2007.

Permitting Status. All applicable federal, state, and local permit applications have been filed. Permits are summarized in the following table.

Permit	Status
Central Valley Regional Water Quality Control Board 401 Permit	Approved in March, 2007.
CA Department of Fish and Game 1600 Permit	Approved in September, 2007.
CA Department of Fish and Game 2081 Permit	Approved in October, 2007.
State Historic Preservation Office MOU	Approved in October, 2007.
US Army Corps of Engineers 404 Permit	Approved in August, 2007.
National Marine Fisheries Letters of Concurrence	Approved in June, 2007.
US Fish and Wildlife Coordination Act Letter	Approved in July, 2007.
US Bureau of Reclamation/WAPA NEPA EA/FONSI	Approved in July, 2007.

Proposed Work Tasks & Deliverables:

Project planning and design are complete, and environmental documentation has been filed. As a result, no planning, design, or environmental compliance funding will be requested for this project.

Task	Description	Deliverables
5.C.1. Planning	Complete planning-level assessment of project feasibility (complete)	Not applicable
5.C.2 Design	Preparation of complete design documents including bid-ready plans and specifications (to be completed prior to June 1, 2010)	Not applicable
5.C.3 Environmental Documentation	CEQA / NEPA Documentation (complete)	Negative Declaration, FONSI

Task 5D – Construction/Implementation Tasks

Construction tasks for Phase 2 of this project are described below.

Current Status:

Phase 1 of this project, which included 1900 feet of pipeline from Pump Station #1 to Marsh Creek, has been completed.

Proposed Work Tasks & Deliverables:

Construction phase tasks and deliverables are summarized in the following table.

Task	Description	Deliverables
5.D.1 Construction Contracting	This task includes all of the items necessary for entering into a construction contract, including bid advertisement, pre-bid conference, providing specific details and answering bidding questions, awarding the project, holding a pre-job meeting , and meeting with the selected contractor and sub-contractors.	Construction Contract
5.D.2 Construction	Includes all construction-related tasks necessary to complete project implementation.	Completed facility
5.D.2.1 Mobilization & Closeout	Contractor insurance, submittals, material procurement and other initial project setup work	Construction Submittals
5.D.2.2 Site Clearing	Clear and grub the project area, including removal of grass, weeds and other material, and complete environmental clearances.	Environmental clearance reports
5.D.2.3 Dewatering	Install groundwater dewatering wells and piping to remove and dispose of excess groundwater to allow pipeline construction	Installed groundwater dewatering wells
5.D.2.4 Bypass Pumping	Install and operate an approximately 100 cfs pumping system to maintain water supply to the District while the Canal is isolated.	Installed and operational bypass pumping
5.D.2.5 Procure and Fabricate Pipe	Order and fabricate the 10-foot diameter concrete pipeline	Pipeline Submittals
5.D.2.6 Pipeline Installation	Install pipeline from the existing Phase 1 terminus to Marsh Creek, and from the end of the Marsh Creek Crossing to the east to the transition structure	Marsh Creek pipeline
5.D.2.7 Import Fill Material and Grading	Import fill material to match adjacent ground surface elevation and prevent drainage onto the right of way. Complete final grading and	Final grading and access roads

Task	Description	Deliverables
	install access roads.	
5.D.2.8 WAPA Relocation	Lower the existing WAPA power poles on the southern levee	Lowered WAPA poles

Task 5E – Environmental Compliance/Mitigation/Enhancement Tasks

Environmental compliance and mitigation has been completed. As such, no new tasks are planned in this category.

Current Status:

Environmental mitigation completed includes 98 of acres upland habitat and 47 acres of wetland habitat on Holland Tract.

Proposed Work Tasks & Deliverables:

Environmental compliance and mitigation has been completed. As such, no new tasks are planned in this category.

Task 5F – Construction Administration Tasks

This task will includes all construction administration activities, including advertisement for bids, bidding, contract award, insurance confirmation and tracking, submittal review and tracking, invoice review and payment, schedule maintenance, and contract closeout.

Current Status:

No work has been completed on this task to-date.

Proposed Work Tasks & Deliverables:

Construction administration tasks and deliverables are summarized in the following table.

Task	Description	Deliverables
5.F. Construction Administration	This task includes all construction administration activities, including advertisement for bids, bidding, contract award, insurance confirmation and tracking, submittal review and tracking, invoice review and payment, schedule maintenance, and contract closeout	Bid advertisement, responses to requests for information, construction contract award, insurance confirmation, payments, completed punchlist

Task 5G – Other Tasks

All project tasks have been described above; no additional work is planned.

Additional Project Information

Additional detail about the project, as requested by the PSP, is provided below:

Coordination with Partner Agencies:

Because there are no official project partners, required coordination will be minimal. However, CCWD will continue to coordinate with the region through regular participation in the East County Water Management Association.

Standards that Will Be Used in Implementation:

The project design was completed using CCWD's design standards. Project implementation will comply with industry construction standards as well as health and safety measures.

Performance Measures and Monitoring Plans:

Project monitoring will be conducted to assess and evaluate project performance. Additional information is provided in Attachment 6.

Merits of Materials and Computational Methods:

All applicable and appropriate water quality, building, and construction standards, materials, and methods have been and will be used in implementing the project. These standards, materials and methods were initially identified in the preliminary design phase, and further documented during final design in the construction plans and specifications. The construction contract documents contain a detailed description of all applicable standards, materials and methods. The specific construction standards, health and safety standards, laboratory analysis, and accepted classifications methods to be used in implementation can be found in the attached contract drawings and specifications.

Deliverables to DWR:

Quarterly reports will be prepared and submitted to DWR. These reports will include budget progress reports, milestone reports, results of assessments and program evaluations, invoices for billable activity, and goals for the next quarter. A final report will be prepared and submitted to DWR. The final report will consist of a final budget report (matching fund and grant funds accounting), deliverables report, results of programs assessments (copies of reports), and lessons learned.

Task 6 – Drainage Area 55 - West Antioch Creek Channel Improvements

Project Summary:

In 1993, the Contra Costa Flood Control & Water Conservation District constructed channel improvements for West Antioch Creek and improved flood capacity within the limits of the project to a 25-year level of protection (maximum achieved without expanding the AT&SF railroad crossing). The resources available in 1993 provided for a project that extended from the San Joaquin River to 8th Street in Antioch. The limited resources did not allow the channel improvements to extend upstream of 8th Street. As a result, a 650 foot gap exists between the 1993 channel improvements and the earthen channel on the Antioch Fairgrounds property. Storm water is currently conveyed through the "gap" via an existing arch culvert and gunite ditch, both with limited capacity. The commercial and multi-family properties adjacent to the deficient reach and within a Disadvantaged Community (0.25 square miles) continue to experience flooding multiple times per year.

The channel construction in 1993 provided the community with a 25-year level of protection (2,810 cubic feet per second of capacity) which drastically contrasts with the existing capacity of the upstream portion of West Antioch Creek which has a capacity of less than 400 feet per second. Providing flood protection and improving the flooding problems along the "gap" is the focus of this project. The project calls for installation of three 14' by 7' Caltrans Standard Box Culverts, 620' long.

The West Antioch Creek watershed is one of two major watersheds in Antioch which has historically experienced flooding problems. In 1993, the District widened and deepened a portion of West Antioch Creek to provide a 25-year level of protection from the San Joaquin River to 8th Street. The City and District now need to expand upon the 1993 project and replace an inadequate trapezoidal concrete ditch and arch culverts with a 620 linear feet-three box culverts project. This new phase will be able to pass approximately ten times more storm water than the existing system. The increase in storm water capacity will provide much needed flood protection to the surrounding community. Failure to complete these required improvements will subject the community to continual flooding on an annual basis.

Technical Documentation:

Technical documents that support the feasibility of this project include:

- Draft EIR (1984)
- Army Corps of Engineers Reconnaissance Report (1988)
- Feasibility Study, Cost Protection Considerations, Preliminary Plan and Typical Sections (2010)

Project Map:

A project map is provided on the following page.

Task 6A – Project Administration Tasks

Project administration tasks will include overall project administration and management, development of a Labor Compliance Program, and project reporting (including reporting on project monitoring and assessment).

West Antioch Creek Proposed Drainage Area

City of Antioch GIS

Current Status:

Project details and costs have been finalized, the preferred alternative has been identified, and a cost - benefit ratio has been prepared. In addition, outreach meetings have been scheduled to keep the community informed of the project schedule.

Proposed Work Tasks & Deliverables:

Project administration tasks and deliverables are summarized in the following table.

Task	Description	Deliverables
6.A. Administration	This task involves general project administration including coordination with project partners and preparation of project invoices. This task also includes preparing a Labor Compliance Program and development of the quarterly, annual and final reports required by the Grant Agreement.	• Invoices • Submission of Labor Compliance Program • Quarterly, Annual and Final Reports

Task 6B –Land Purchase/Easement Tasks

Preliminary negotiations have been initiated with the impacted property owner to determine minimum impacts to existing business.

Current Status:

A new permanent easement will be required for the box culvert system. In addition, temporary construction easements will be required.

Proposed Work Tasks & Deliverables:

Land purchase / easement tasks and deliverables are summarized in the following table.

Task	Description	Deliverables
6.B. Channel Easements	This task includes obtaining 28, 686 square feet of permanent easement for required box culvert system, and acquiring approximately 16,000 sq. ft. of temporary construction easements.	Temporary and permanent easements

Task 6C – Planning/Design/Environmental Documentation Tasks

This task involves completing planning and design work, and securing all necessary approvals.

Current Status:

Planning and Design Status. Fourteen potential project alternatives were identified, and extensive cost analysis was completed to identify a preferred approach. A preliminary project drawing showing layout

of proposed culvert alignment and impacted right-of-way needs has been developed, along with the system profile and necessary survey information. In addition, necessary easements have been identified.

Environmental Documentation Status**.** Environmental documentation has not been developed. Documentation is expected to be completed by the end of 2011, pending funding.

Permitting Status**.** Several permits have been identified as necessary for this project to move forward. These permits are presented in the following table.

Permit	Status
ACOE 404	An initial consultation meeting has been held. Expected approval date: September 2012.
DFG 1602	The process for obtaining the 1602 Lake and Streambed alteration Agreement has not been initiated. Expected approval date: September 2012.
SWRCB 401 Water Quality Certification	The process for obtaining the 401 Water Quality Certification has not been initiated. Expected approval date: September 2012.

Proposed Work Tasks & Deliverables:

Proposed planning, design, environmental documentation, and permitting work tasks are summarized below.

Task	Description	Deliverables
6.C.1. Planning	This task includes preparing a Water Pollution Control Program.	Water Pollution Control Program
6.C.2. Design	This task includes preparing plans and specifications for project implementation.	Project plans and specifications
6.C.3. Environmental Documentation	This task involves completing the Habitat Conservation Plan process as well as completing and filing CEQA documentation.	CEQA Documentation
6.C.4. Permitting	This task includes securing the following required permits: ACOE 404, DFG 1602, and SWRCB 401.	Permit approvals

Task 6D – Construction/Implementation Tasks

Construction tasks for this project are described below.

Current Status:

No construction-related work has been completed to-date.

Proposed Work Tasks & Deliverables:

Construction administration tasks and deliverables are summarized in the following table.

Task	Description	Deliverables
6.D.1. Construction Contracting	This task includes all of the items necessary for entering into a construction contract, including bid advertisement, pre-bid conference, providing specific details and answering bidding questions, awarding the project, holding a pre-job meeting , and meeting with the selected contractor and sub-contractors.	Construction Contract
6.D.2. Mobilization and Sitework	This task includes the Water Pollution Control Program, water control, temporary fence, clearing and grubbing, traffic control, mobilization, and construction area signs.	Completed sitework
6.D.3. Construction	This task includes physical project construction, including wing walls, rip rap, fine grading, utility relocation, channel excavation, and culvert construction.	Construction contract Completed facility

Task 6E – Environmental Compliance/Mitigation/Enhancement Tasks

This task includes all environmental mitigation needed to offset potential impacts of project implementation.

Current Status:

No work has been completed on this task to-date.

Proposed Work Tasks & Deliverables:

Environmental mitigation work tasks are summarized in the following table.

Task	Description	Deliverables
6.E.1. Environmental Improvement / Mitigation	This task includes completion of the Habitat Conservation Process, which provides for project mitigation as outlined in the East County Habitat Conservation Plan. In addition, the task includes implementing project mitigation measures required by regulatory agencies.	Completed mitigation

Task 6F – Construction Administration Tasks

This task includes all construction administration activities.

Current Status:

No work has been completed on this task to-date.

Proposed Work Tasks & Deliverables:

Construction administration work tasks and deliverables are summarized in the following table.

Task	Description	Deliverables
6.F. Construction Inspection	This task includes the following: • Construction Inspection: construction management and project oversight • Material Testing: Testing and approval of construction materials (i.e., concrete testing, reinforcing steel approval, compaction testing, base material approvals, etc.) • Contract Administration: Approval of billing submittals, certified payrolls, processing of change orders and contract payments • Project Acceptance: Prepare final report and obtain Council Approval • Surveying: Survey site to obtain design and construction information	Final Project Acceptance

Task 6G – Other Tasks

Other tasks required as part of project implementation include ongoing performance assessment and evaluation.

Current Status:

No work has been completed on this task to-date.

Proposed Work Tasks & Deliverables:

Other tasks are summarized in the following table.

Task	Description	Deliverables
6.G. Ongoing Monitoring	This task includes tracking storm capacities, monitoring mitigation measures, and performing capacity surveys.	Post-construction performance information

Additional Project Information

Additional detail about the project, as requested by the PSP, is provided below:

Coordination with Partner Agencies:

The City of Antioch and the CCCFC&WCD will develop and enter into a Joint Exercise Power Agreement (JEPA) outlining action items for the proposed flood risk reduction project along West Antioch Creek at

10th Street. The JEPA will outline the responsibilities of both agencies and will include all tasks required to construct this project, including planning, alternatives analysis, hydraulic analysis, engineering design, environmental permitting, real property assessment and acquisition, public outreach, utility coordination, surveying, establishing project funds, advertising construction documents, contract award, construction inspection, and maintenance.

Standards that Will Be Used in Implementation:

The City of Antioch and the CCCWC&FCD will adhere to applicable standards in designing and implementing the project. Specifically, the project will incorporate the following standards:

1. State of California Department of Transportation Standard Specification and Construction Details May 2006
2. City of Antioch Construction Details
3. Contra Costa County Flood Control & water Conservation District Special Construction Details

Performance Measures and Monitoring Plans:

Project monitoring will be conducted to assess and evaluate project performance. Monitoring will include:

1. Tracking design storm information against actual storm data to ensure project is functioning as designed.
2. Conducting routine post-project surveys to ensure design grades are maintain to assure maximum capacities are maintained within the channel system.
3. Developing mitigation agreements with involved regulatory agencies to ensure mitigation success.

Additional information is provided in Attachment 6.

Merits of Materials and Computational Methods:

All applicable and appropriate building, and construction materials and methods standards have been and will be used in implementing the project. These materials and methods will be identified in the design phase, and further documented during final design in the construction plans and specifications.

Deliverables to DWR:

Quarterly reports will be prepared and submitted to DWR. These reports will include budget progress reports, milestone reports, results of assessments and program evaluations, invoices for billable activity, and goals for the next quarter. A final report will be prepared and submitted to DWR. The final report will consist of a final budget report (matching fund and grant funds accounting), deliverables report, results of programs assessments (copies of reports), and lessons learned.

Task 7 – Upper Sand Creek Basin

Project Summary:

The primary purpose of the Upper Sand Creek Basin project (USCB) is to prevent flooding along the lower reach of Marsh Creek between Sand Creek and the Marsh Creek outfall into the Sacramento-San Joaquin River at Big Break in Oakley. The regional goal for USCB is to significantly reduce peak flows from Sand Creek into Marsh Creek. Local stormwater runoff and stormwater generated in the watershed will be conveyed by Sand Creek to the basin where it will be stored and released slowly through the basin outlet, reducing peak flows downstream and reducing the potential for flooding downstream properties. Secondary purposes of the Basin include habitat restoration and water quality enhancements.

The construction of USCB will expand an existing interim flood control basin from 41 acres in area to a final constructed area of approximately 62 acres, increasing the flood storage capacity of the basin from 123 acre feet to 900 acre feet with a 35-foot maximum depth. The expansion will be constructed by excavating the existing interim basin floor to create a deeper basin where water will be held and slowly released downstream during major storm events. Excavation depths will range from 0 to approximately 37 feet below existing grade. Soil removed from the excavation will be used to construct an earthen dam on the northeast side of the basin to impound flood waters from major storm events. Any remaining soil will be hauled off-site, stockpiled in the basin, or placed on adjacent parcel(s) for future use by interested parties.

The basin expansion will include Sand Creek, creating an “on-line” basin behind the dam. Approximately 3,876 feet of Sand Creek will be excavated 10 feet below its current elevation and approximately 3,612 feet will be reconstructed with a fluvial geomorphic (natural creek) design to restore and enhance Sand Creek within the basin. The remaining 264 feet will be re-created on-site as wetland acreage. The basin will have a continuous perimeter service road as well as ramps to the basin bottom and drainage structures for maintenance access.

The basin will be a normally dry reservoir (except for low-flows) that will attenuate peak runoff by containing stormwater flows up to the 100-year storm event. During typical rains, the creek and local stormwater runoff flows will be carried through a low-flow channel and will discharge through the primary outlet pipe under the dam. This primary outlet will release a maximum peak flow of 131 cubic feet per second (cfs) into the creek below the dam. This reduction will help reduce the overall flow from Sand Creek into Marsh Creek to 400 cfs. Creek flows that exceed the inlet-controlled discharge capacity of the outlet works from more severe storms would pond in the basin and the basin stage will rise. After the peak of the storm has passed, and once the creek flow becomes smaller than the outlet discharge, the water stored in the basin will be passively released back into Sand Creek. For storms greater than the 100-year storm event, flood flows will pass over the emergency spillway and follow a controlled route to enter the creek downstream of the basin.

Sand Creek is the largest tributary in the lower Marsh Creek Watershed, as it contributes approximately 15 square miles of drainage to Marsh Creek. The primary goal USCB is to prevent flooding along the lower reach of Marsh Creek between Sand Creek and the Marsh Creek outfall point into the Sacramento-San Joaquin River at Big Break in Oakley. The regional goal for USCB is to attenuate peak flows from Sand Creek into Marsh Creek to 400 cubic feet per second for a 100-year storm event.

Analyses of the Sand Creek drainage area indicate that 900 acre feet of flood storage capacity is ultimately required at the USCB site. The stormwater generated in the watershed will be conveyed by Sand Creek to the basin where it will be stored and released slowly through the basin outlet pipes, reducing peak flows downstream and reducing the potential for flooding downstream properties.

Technical Documentation:

Technical documents that support the feasibility of the project include:

- Feasibility Study and preliminary design
- IS/MND
- Army Corps Section 404 Permit Application

Project Map:

A project map is provided on the following page.

Task 7A – Project Administration Tasks

Project administration tasks will include overall project administration and management, development of a Labor Compliance Program, and project reporting (including reporting on project monitoring and assessment).

Current Status:

No work has been completed on this task to-date.

Proposed Work Tasks & Deliverables:

Project administration tasks are summarized in the following table.

Task	Description	Deliverables
7.A. Administration	This task involves general project administration including coordination with project partners and preparation of project invoices. In addition, this task includes development of a Labor Compliance Plan and preparation and submittal of the quarterly, annual and final reports required by the Grant Agreement.	Invoices Labor Compliance Program Quarterly, Annual and Final Reports

Task 7B –Land Purchase/Easement Tasks

This task will include acquisition of an easement for a PG&E line that will be relocated.

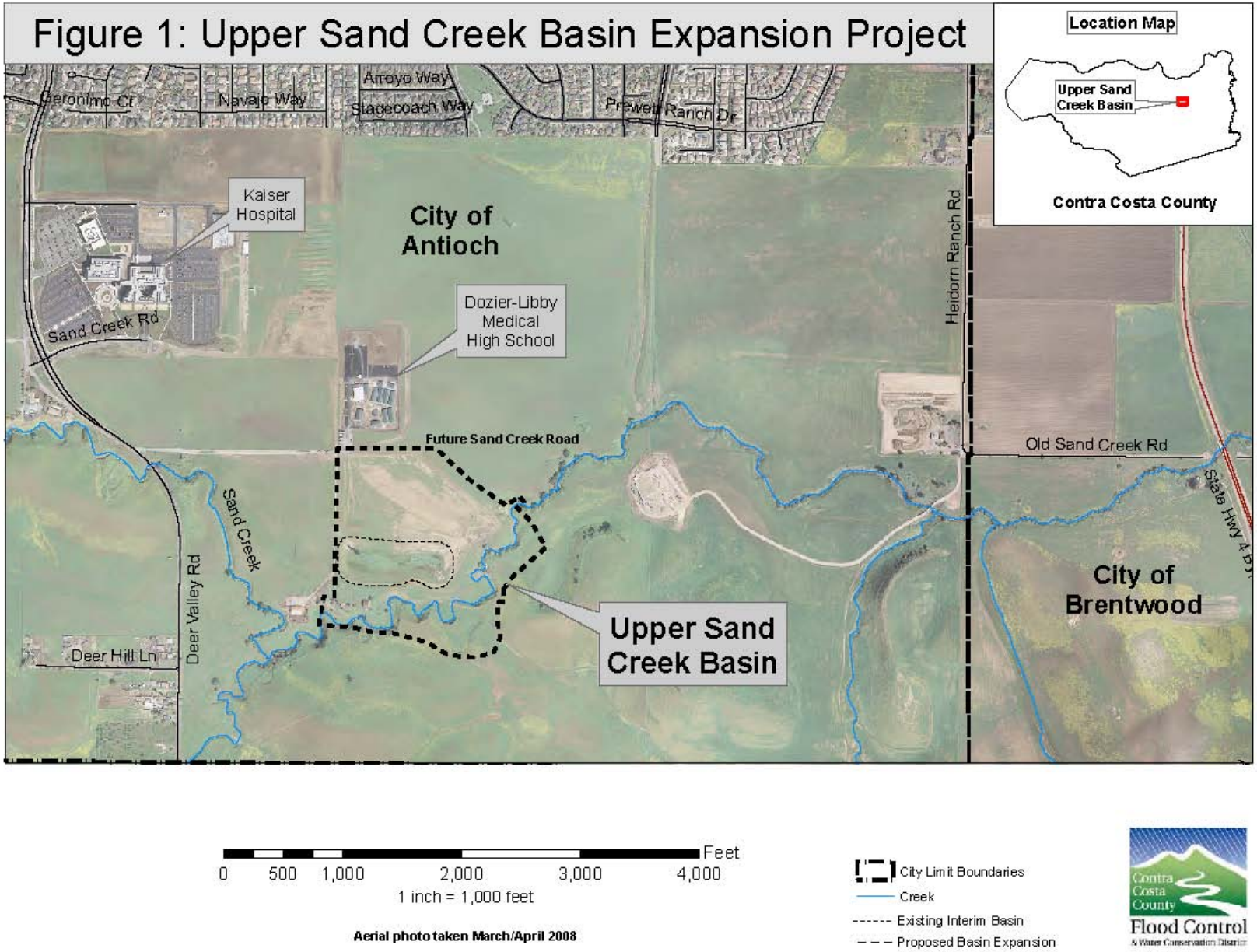


Figure 1: Upper Sand Creek Basin Expansion Project
Location Map
Upper Sand Creek Basin
Contra Costa County
Geronimo Ct
Navajo Way
Arroyo Way
Stagecoach Way
Prewett Ranch Dr
Kaiser Hospital
City of Antioch
Dozier-Libby Medical High School
Heidorn Ranch Rd
Sand Creek Rd
Future Sand Creek Road
Old Sand Creek Rd
State Hwy 4
Sand Creek
Deer Valley Rd
Deer Hill Ln
Upper Sand Creek Basin
City of Brentwood
Feet
0 500 1,000 2,000 3,000 4,000
1 inch = 1,000 feet
Aerial photo taken March/April 2008
City Limit Boundaries
Creek
Existing Interim Basin
Proposed Basin Expansion
Contra Costa County
Flood Control
& Water Conservation District

Current Status:

Acquisition of easements from adjacent properties is underway, and acquisition is expected to be completed by December 31, 2010. Property acquisition from one adjacent landowner is nearing completion and is expected to be complete by December 31, 2010. Order of possession for condemnation of property from a second adjacent landowner is scheduled to be complete by February 11, 2011.

Proposed Work Tasks & Deliverables:

Easement-related work tasks are summarized in the following table.

Task	Description	Deliverables
7.B. Utility Relocation	Acquisition of easement for relocated PG&E line.	New easement for PG&E

Task 7C – Planning/Design/Environmental Documentation Tasks

This task involves completing planning and design work, and securing all necessary approvals.

Current Status:

Planning and Design Status. Design is nearly complete. Bid documents will prepared closer to the expected 2012 construction advertisement.

Environmental Documentation Status. CEQA is complete and was approved by the Contra Costa County Board of Supervisors November 3, 2010.

Permitting Status**.** Several permits have been identified for this project. The current status and expected approval dates for each applicable permit are presented in the following table.

Permit	Status
ACOE Section 404 Permit	Permit application submitted August 24, 2010. Approval is expected in January of 2011.
RWQCB Section 401 Water Quality Certification	Certification submittal scheduled for December 15, 2010. Approval is expected February 15, 2011.
SWRCB NPDES Permit for Storm Water Discharges Associated with Construction Activity	Application to be submitted during award stage of construction contract, March, 2012. Approval is expected May 1, 2012.
DFG Lake and Streambed Alteration Agreement	Streambed Alteration Agreement submittal scheduled for December 15, 2010. Approval is expected February 15, 2011.
DSOD Approval of Plans	DSOD has reviewed 90% plans and has provided comments. Approval is expected in February of 2011.

Proposed Work Tasks & Deliverables:

Proposed planning, design, environmental documentation, and permitting work tasks are summarized below.

Task	Description	Deliverables
7.C. 1. Planning	This task includes verification of the conceptual basin design and operation.	Hydrology and Hydraulic Report (to be completed by 06/2011)
7.C.2. Design	This task involves preparation of a preliminary design report including geotechnical investigation, testing and analyses; 30%, 60%, and 90% design stages; and complete bid documents. It also includes Division of Safety of Dams approval of plans.	Plans and specifications (to be completed by 06/2011)
7.C.3. Environmental Documentation	This task includes the CEQA Initial Study/Mitigated Negative Declaration (finalized November 3, 2010) and Habitat Conservation Plan/Natural Community Conservation Plan coordination (project presented to HCP Board September 22, 2010).	CEQA documentation
7.C.4. Permitting	This task involves securing approvals for the following permits: • ACOE Section 404 Permit (application submitted August 24, 2010) • RWQCB Section 401 Water Quality Certification (application submittal pending; anticipate by December 15, 2010) • SWRCB NPDES General Permit for Storm Water Discharges Associated with Construction Activity (application submittal pending until project awarded and Stormwater Pollution Prevention Plan (SWPPP) has been received, April 30, 2012) • DFG Lake and Streambed Alteration Agreement (application submittal pending; anticipate by December 15, 2010)	Permit approvals

Task 7D – Construction/Implementation Tasks

Construction tasks for this project are described below.

Current Status:

No work has been completed on this task to-date.

Proposed Work Tasks & Deliverables:

Proposed construction-related tasks are summarized in the following table.

Task	Description	Deliverables
7.D.1. Construction Contracting	This task includes advertising for bids, holding a pre-bid meeting, awarding the construction contract, and issuing a notice to proceed.	Bid Advertisement Pre-bid Meeting Contract Award Notice to Proceed
7.D.2. Mobilization and Sitework	This task includes traffic control, mobilization, clearing and grubbing, excavation safety plan development, construction area signs, storm water pollution prevention plan development, and control of water.	Completed sitework
7.D.3. Construction	This task includes physical construction tasks including erosion control, basin excavation, dam embankment overexcavation, foundation preparation, channel excavation, basin inlet structure, primary spillway trash rack, headwall and sluice gate, and perimeter road and fence.	Construction contract Completed facility

Task 7E – Environmental Compliance/Mitigation/Enhancement Tasks

This task includes all environmental mitigation needed to offset potential impacts of project implementation.

Current Status:

No work has been completed on this task to-date.

Proposed Work Tasks & Deliverables:

Environmental mitigation work tasks are summarized in the following table.

Task	Description	Deliverables
7.E. Environmental Mitigation / Enhancement	This task includes mobilization and site preparation for restoration, restoration grading and planting, demobilization, and site monitoring.	Restoration construction contract Completed restoration Monitoring reports

Task 7F – Construction Administration Tasks

This task will includes all construction administration activities, including advertisement for bids, bidding, contract award, insurance confirmation and tracking, submittal review and tracking, invoice review and payment, schedule maintenance, and contract closeout.

Current Status:

No work has been completed on this task to-date.

Proposed Work Tasks & Deliverables:

Construction administration tasks and deliverables are summarized in the following table.

Task	Description	Deliverables
7.F. Construction Administration	This task includes resident engineering, consultant review of construction activities, and construction materials testing.	Resident Engineer hired Inspection reports Testing reports

Task 7G – Other Tasks

No other tasks are anticipated for this project.

Additional Project Information

Additional detail about the project, as requested by the PSP, is provided below:

Coordination with Partner Agencies:

CCCFC&WCD has coordinated with the City of Antioch on property acquisition efforts for adjacent parcels. The basin has been designed to allow future use by the City as a sports park. The basin restoration area design has been presented to the HCP board for concurrence.

Standards that Will Be Used in Implementation:

USCB will be built to Contra Costa County specifications and to Division of Safety of Dams standards.

Performance Measures and Monitoring Plans:

Project monitoring will be conducted to assess and evaluate project performance. Specifically, placed fill and facility subgrades will tested to ensure that they are compacted to level specified. The dam structure incorporates settlement monuments so that its settlement can be monitored. Restoration planting will be periodically monitored to ensure the success of the plantings, and plantings that do not survive will be replanted. Additional information is provided in Attachment 6.

Merits of Materials and Computational Methods:

The dam constructed for USCB will use material excavated from basin. Soil material not used in the dam will be used for fill at other nearby sites such as the Highway 4 Bypass, Sand Creek Road Interchange and the e-BART Antioch Station.

Deliverables to DWR:

As required, the grant recipient will submit quarterly and final reports to DWR. The District is currently submitting similar quarterly report to DWR for the Local Levee Evaluation program.

Task 8 – Watershed Protection and Restoration

Project Summary:

The purpose of this project is to acquire and restore habitat for endangered and listed species in eastern Contra Costa County. This is part of a regional program to permanently protect and manage a 30,000 acre preserve system for ecosystem integrity, species and recreation.

The parcel acquired and restored will be located in a high priority acquisition area identified in the East Contra Costa County Habitat Conservation Plan/ Natural Community Conservation Plan, and it will provide important benefits to listed species. Efforts are being focused on the northwest area of the East County Region near the cities of Pittsburg and Clayton. One of the main goals in this area is to protect a corridor that reaches from the Concord Naval Weapons Station (just west of the East County IRWMP area) to the Black Diamond Mines Regional Preserve (and farther south to Alameda and San Joaquin County). This region is rich in natural resources and contains the headwaters to many small creeks that drain to the north through more urbanized areas and to the east into already preserved lands. Parcels in this region are large (200-500 acres) and provide critical habitat for aquatic species, raptors, and rare plants.

Restoration will involve restoring/creating aquatic habitats (wetlands/ponds) suitable for CA Tiger Salamander or CA Red legged frog. Past projects have restored riparian corridors, created/restored wetlands for fairy shrimp and amphibians, and created ponds to support tiger salamanders. Splitting the funding between contributing to acquisition and supporting restoration, it is conservatively estimated that approximately 200 to 500 acres would be preserved and 2 acres of wetted habitat would be restored.

The Conservancy has an on-going program to do this work and has many parcels in play at any given time. Within the first 2 years of Plan implementation, the Conservancy conserved approximately 7,500 acres of land and resorted over 8 acres of wetlands. Though each acquisition and restoration has a local impact on the immediate surrounding environment, together they are a regional program that is critical for protecting habitat and species in the East Contra Costa County area. The implementation of East Contra Costa County HCP/NCCP is dependent on a long series of successful, strategic local acquisition and restoration projects. Combined, over the 30 year life of the plan, we expect to acquire 30,000 acres of land and restoring large acreages of habitats for endangered/threatened species. In the first two years of implementation we have preserved approximately 7,500 acres of land and restored 8 acres of wetland habitat.

Current land prices are favorable and there are many willing sellers. Large parcels of land are in negotiation for at prices that will allow us to stretch grant funds. There is a similar situation in the construction market. Projects that go out to bid are coming in significantly lower that engineer's estimates and this makes this an opportune time to move quickly on restoration projects

If this proposal fails, the Conservancy risks losing federal match money and failing to acquire targeted properties which may not come back on the market in the foreseeable future. In addition, failing to implement the HCP would prevent ESA permits from being issued in East Contra Costa County and could impact CCWD's ability to draw water from the Delta.

Technical Documentation:

Technical documents that support the feasibility of the project include:

- HCP / NCCP

Project Map:

The project location is shown on the map on the following page.

Task 8A – Project Administration Tasks

Project administration tasks will include overall project administration and management, development of a Labor Compliance Program, and project reporting (including reporting on project monitoring and assessment).

Current Status:

No work has been completed on this task to-date.

Proposed Work Tasks & Deliverables:

Project administration tasks and deliverables are summarized in the following table.

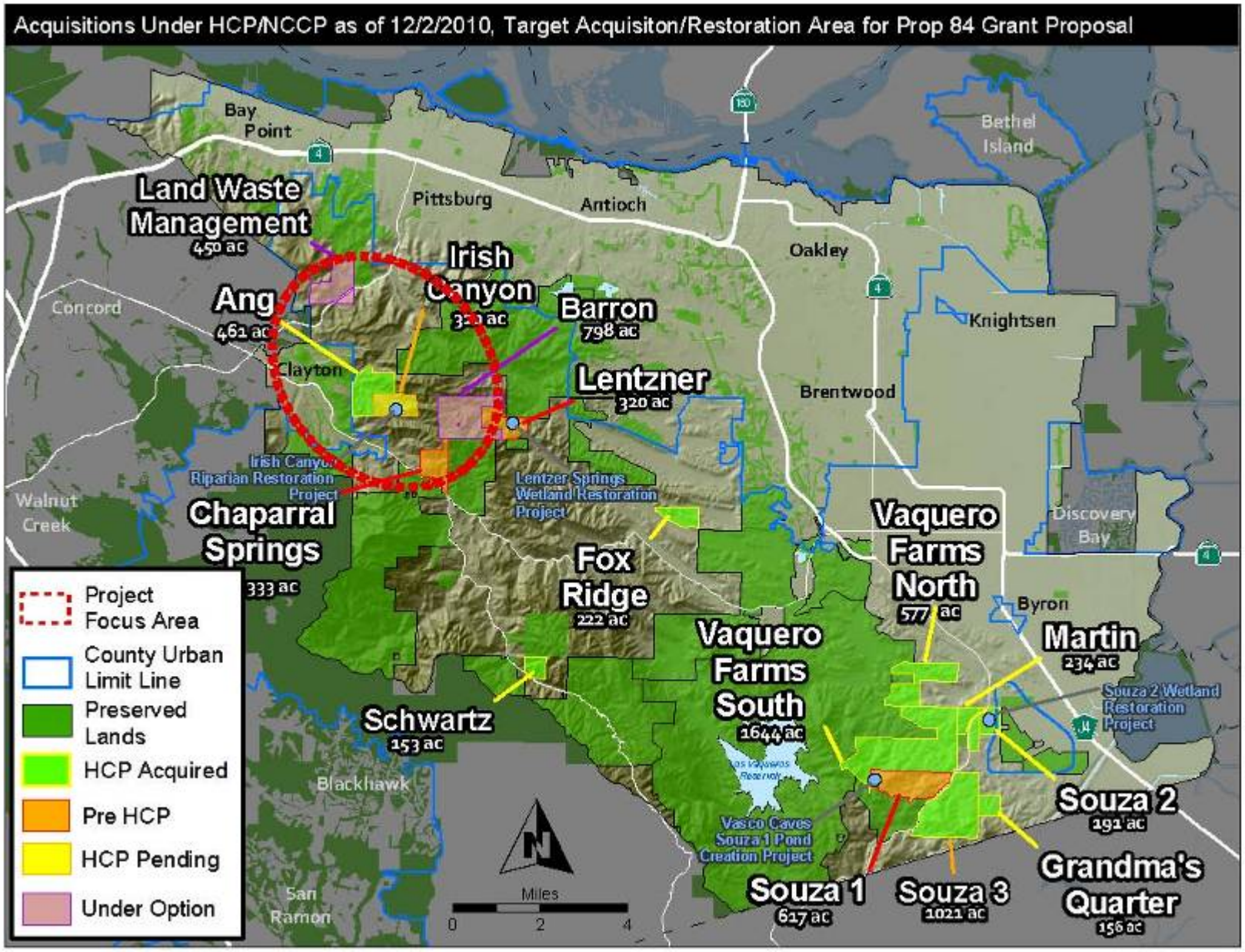
Task	Description	Deliverables
8.A. Administration	This task involves general project administration including coordination with project partners and preparation of project invoices. In addition, this task includes development of a Labor Compliance Plan and preparation and submittal of the quarterly, annual and final reports required by the Grant Agreement.	Invoices Labor Compliance Program Quarterly, Annual and Final Reports

Task 8B –Land Purchase/Easement Tasks

A parcel of land will be purchased and restored. The Conservancy has an on-going program to do this work and has many parcels in play at any given time. Due to the uncertain timing of land acquisition transactions, it is uncertain which parcel and restoration project this will fund; however, the parcel acquired will be in the northwest area of the East County Region near the cities of Pittsburg and Clayton, in a high priority acquisition area identified in the East Contra Costa County Habitat Conservation Plan/ Natural Community Conservation Plan.

Current Status:

No work has been completed on this task to-date.


Acquisitions Under HCP/NCCP as of 12/2/2010, Target Acquisiton/Restoration Area for Prop 84 Grant Proposal
Bay Point
Pittsburg
Antioch
Bethel Island
Oakley
Concord
Clayton
Knightsen
Brentwood
Walnut Creek
Discovery Bay
Byron
Blackhawk
San Ramon
Land Waste Management 450 ac
Ang 461 ac
Irish Canyon 350 ac
Barron 798 ac
Lentzner 320 ac
Chaparral Springs 333 ac
Fox Ridge 222 ac
Schwartz 153 ac
Vaquero Farms North 577 ac
Vaquero Farms South 1644 ac
Martin 234 ac
Souza 2 191 ac
Souza 1 617 ac
Souza 3 1021 ac
Grandma's Quarter 156 ac
Irish Canyon Riparian Restoration Project
Lentzer Springs Wetland Restoration Project
Souza 2 Wetland Restoration Project
Vasco Caves Souza 1 Pond Creation Project
Project Focus Area
County Urban Limit Line
Preserved Lands
HCP Acquired
Pre HCP
HCP Pending
Under Option
Miles
0
2
4

Proposed Work Tasks & Deliverables:

Land purchase / easement tasks and deliverables are summarized in the following table.

Task	Description	Deliverables
8.B. Parcel Acquisition	This task includes identification of the specific parcel to be acquired and restored, completion and submission of appraisals, and parcel acquisition.	Map and Parcel Number(s) Copy of appraisal approval Copy of title

Task 8C – Planning/Design/Environmental Documentation Tasks

This task involves completing planning and design work, and securing all necessary approvals.

Current Status:

Planning and Design Status. Design of this project has not started. The Conservancy has a track record of a 15 month timeframe from initiating design of wetland restoration projects to completing construction. The Conservancy has multiple projects moving forward at all time and would like to apply any awarded funding to the project most in need to maximize federal grant matching funds.

Environmental Documentation Status. CEQA/NEPA is complete for the East Contra Costa County Habitat Conservation Plan/ Natural Community Conservation Plan. These environmental documents cover the activities undertaken as part of implementing the plan. For this specific restoration project, a Negative Declaration will be posted/filed.

Permitting Status. Depending upon the specific parcel acquired, several permits may be required for this project. The current status and expected approval dates for each applicable permit are presented in the following table.

Permit	Status
ACOE 404	Application to be filed.
DFG Streambed alteration agreement	Application to be filed.
SWRCB 401 Water Quality Certification	Application to be filed.
County Grading permit	Application to be filed.

Proposed Work Tasks & Deliverables:

Proposed planning, design, environmental documentation, and permitting work tasks are summarized below.

Task	Description	Deliverables
8.C.1. Planning	This task will include completing a pre-acquisition survey and preparing an assessment of restoration opportunities.	Completed Survey Completed Assessment
8.C.2. Design	This task includes completion of conceptual, 30%, 60%, 90% and final design.	Conceptual Design Construction bid documents
8.C.3. Environmental Documentation	This task includes preparation and filing of a Negative Declaration.	Copy/receipt of filing
8.C.4. Permitting	This task involves securing for all required local, State and Federal permits.	Permit approvals

Task 8D – Construction/Implementation Tasks

Construction tasks for this project are described below.

Current Status:

No work has been completed on this task to-date.

Proposed Work Tasks & Deliverables:

Proposed construction-related tasks are summarized in the following table.

Task	Description	Deliverables
8.D.1. Construction Contracting	This task includes advertising for bids, holding a pre-bid meeting, awarding the construction contract, and issuing a notice to proceed.	Bid Advertisement Pre-bid Meeting Contract Award Notice to Proceed
8.D.2. Mobilization and Site Preparation	This task involves preparing the site for restoration and moving heavy equipment to the site. Installing BMPs to protect water quality and completing all species surveys as required.	Installed BMPs
8.D.3. Construction	This task involves clearing and grubbing the site; performing earthwork; procuring materials for the berm liner and spillway mat, seed / hydroseed and plant material; plant installation; and 6 months of weeding and maintenance	Completed restoration
8.D.4. 3. Performance testing and Demobilization	This task involves performance testing and demobilization.	Monitoring reports

Task 8E – Environmental Compliance/Mitigation/Enhancement Tasks

No environmental compliance / mitigation / enhancement work is planned for this project.

Task 8F – Construction Administration Tasks

This task will includes all construction administration activities, including submittal review and tracking, invoice review and payment, schedule maintenance, and contract closeout.

Current Status:

No work has been completed on this task to-date.

Proposed Work Tasks & Deliverables:

Construction administration tasks and deliverables are summarized in the following table.

Task	Description	Deliverables
8.F.1. Construction Administration	This task includes resident engineering, consultant review of construction activities, and construction materials testing.	Resident Engineer hired Inspection reports Testing reports

Task 8G – Other Tasks

No other tasks are planned for this project.

Additional Project Information

Additional detail about the project, as requested by the PSP, is provided below:

Coordination with Partner Agencies:

The Conservancy has regularly monthly meetings scheduled with East Bay Regional Park District staff to coordinate land acquisition, restoration and management activities. Staff also hold regularly scheduled meetings with Wildlife Agencies (CA Dept of Fish and Game and US Fish and Wildlife Service). All of these meetings help coordinate a quick process with project development and permitting.

The Conservancy also holds quarterly Governing Board meetings with representatives from all participating agencies including: Contra Costa County and the cities of Brentwood, Clayton, Oakley, and Pittsburg. The Conservancy holds quarterly Public Advisory Meetings with representatives from a range of stakeholder groups.

Standards that Will Be Used in Implementation:

The Conservancy will adhere to applicable standards in designing and implementing the project. The contractor will be required to follow all regulations for safety as required by the Occupational Safety and Health Administration (OSHA). All applicable and appropriate water quality, building, and construction standards have been and will be used in implementing the project. These standards will initially be identified in the preliminary design phase, and further documented during final design in the construction plans and specifications. The specific standards, construction standards, health and safety standards, laboratory analysis, and accepted classifications methods to be used in implementation will all be included in the contract drawings and specifications.

Performance Measures and Monitoring Plans:

Project monitoring will be conducted to assess and evaluate project performance. Additional information is provided in Attachment 6.

Merits of Materials and Computational Methods:

Not applicable

Deliverables to DWR:

Quarterly reports will be prepared and submitted to DWR. These reports will include budget progress reports, milestone reports, results of assessments and program evaluations, invoices for billable activity, and goals for the next quarter. A final report will be prepared and submitted to DWR. The final report will consist of a final budget report (matching fund and grant funds accounting), deliverables report, results of programs assessments (copies of reports), and lessons learned. DWR deliverables will include the following:

1. Preliminary restoration plans
2. Final Construction documents and permits
3. Copy of deed/fee title of acquired property
4. Construction As-built document
5. 1st year monitoring report

Attachments:

- Task 2: East County Water Meter Installation Program - Water Meter Manufacturer Information
- Task 5: Phase 2 Contra Costa Canal Levee Elimination Project - Plans and Specifications
- Task 6: Drainage Area 55 – West Antioch Creek Channel Improvements - Conceptual Design
- Task 7: Upper Sand Creek Basin - Plans and Specifications